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THEORY AND PRACTICE
OF
PHYSICS

Phys. G. 86.

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A
METHODICAL INTRODUCTION
TO THE
THEORY AND PRACTICE
OF
P H Y S I C.

A
METHODOICAL INTRODUCTION
TO THE
THEORY AND PRACTICE
OF
PSYCHICS

A
Methodical Introduction
TO THE
THEORY AND PRACTICE
OF
PHYSIC.

By DAVID MACBRIDE, M. D.

L O N D O N:

Printed for W. STRAHAN; T. CADELL in the Strand; A. KINCAID
and W. CREECH, and J. BALFOUR, at Edinburgh.

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Methodical Introduction

TO THE

THEORY AND PRACTICE

OF

P H Y S I C S

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BY DAVID MACGILLIVRAY, M.D.

L O N D O N :

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M D C C L X I I I

P R E F A C E.

THE Medical Libraries are already so full, that adding to the heap may be deemed an unnecessary labour, especially if the new book is little more than a compilation; and such it inevitably must be, if it professes to give a general view of the Theory and Practice of Physic.

But as it is of great use to those who are commencing students to have the principal matters selected from approved authors, and arranged in a regular method; and, as many of the systems are obsolete, some too voluminous or ill digested, and others too compendious or obscure, it is apprehended that a new one may have still some claim to admittance, provided it be formed agreeable to nature, is of moderate length, and written so as to be intelligible to any person who has a competent share of preliminary knowledge in anatomy, physiology, and pharmacy.

The following work contains the substance of a course of Lectures, that were read for some seasons in DUBLIN, and consists of two parts:

The First, or Institutionary Part, explains the principles on which the art is founded, and gives a general idea, such as may be sufficient for those who read physic only as a branch of natural philosophy. It is divided into seven Books.

The first gives a general description of the Human Body, and a summary view of the Animal Oeconomy.

The second contains the Analysis of Diseases, and gives a general view of the Morbid State. This analysis is made, by examining, separately, the natures, causes, and consequences of the different Symptoms, as they are called, or component parts of diseases.

In the third Book is shewn, how to distinguish the symptoms that are essential to a particular disease, from such as are accessory and extraordinary; as also, how to arrange diseases according to the systematic method, into classes, orders, genera, and species.

The fourth inquires particularly into the nature of the different orders of diseases, and distinguishes them severally into their subordinate genera.

In the fifth Book are laid down the rules which have been established with regard to the pulse and respiration, the appearances of the blood, urine, and other discharges, so far as they are used for signs, to shew the present state of a disease, and prognosticate the event.

The sixth gives a short sketch of what the systematic writers term Hygiene, or general scheme to preserve health: And,

The seventh Book contains the general scheme of curing diseases.

The Second, or Practical Part, gives histories of the several species of diseases, and lays down the methods of treatment. It is divided into twelve Books, of which nine only are now published; but the remainder will follow, if what
is

is already done shall be found to receive the approbation of the judicious ; to whose corrections the author will cheerfully submit, and whose indulgence he requests, especially for the repetitions, which, in a work of this nature and extent, are almost unavoidable.

It was once intended to quote the various writers, who have all along been made use of ; but such continued references take off the reader's attention : and, as it is not of much importance to students (for whose service the Book is principally designed) to know who are the authors of a particular distinction, fact or opinion, such notes have, for the most part, been omitted.

If any persons already conversant in medical reading shall deign to run over the following pages, they will readily perceive where the author copies those who have gone before him, and will see that his obligations are chiefly to the *Nosologia Methodica* of *Sauvages*, a capital work, but too prolix, and too full of minute distinctions for the generality of young readers.

DUBLIN,
28 January, 1771.

E R R A T A.

The Author's distance from the press having prevented him from revising and correcting the sheets as they were printed off, he hopes for the indulgence of his readers, when they meet with inaccuracies; and requests them to make the alterations which are pointed out in the following table.

Page	Line	Page	Line
2.	11. read imbued.	372.	12. read degree.
10. 11 and 21.	r. ferruginous.	374.	13. r. <i>nigræ seu sanguineæ</i> .
20.	11. for effort r. effect.	384.	16. r. <i>always</i> accidental.
24.	14. r. substance.	387.	15. r. <i>fully</i> out.
30.	4. r. powers <i>or</i> faculties.	388.	3. dele <i>in general</i> .
43. <i>ab imo</i>	7. for access, r. accession.	402. <i>ab imo</i>	2. r. couhage.
49.	8. for <i>That</i> even, r. <i>But</i> even.	437.	17. for blood, r. load.
	16. for But, r. However.	438. last line,	r. <i>ammoniaci</i> .
	<i>ab imo</i> 4. for <i>but</i> these, r. <i>and</i> these.	480.	6. r. <i>feminales</i> .
57.	11. for replace, r. repair.	521.	20. r. strangulation.
94. <i>ab imo</i>	6. for real, r. regular.	531.	18. r. oils.
116.	1. after <i>like</i> , add, those occasion- ed by.	532.	9. r. became.
152.	18. r. give.	<i>ab imo</i> 8.	r. <i>De Haen</i> .
167.	14. for effects, r. defects.		5. r. <i>and</i> lime water.
171.	9. for consisting, r. depending.	539.	17. r. <i>there is</i> .
181.	17. r. symptom.	552.	6. r. <i>vesaniæ</i> .
197.	5. r. protrusion.	589. <i>ab imo</i>	6. for waste, r. weakness.
218. <i>ab imo</i>	6. for usually, r. uncommonly.	594.	16. for there are no ways, (&c. to the end of the paragraph) 7. there are only two ways in which they can be carried off, or escape, namely, by the absorbents, which take their rise from the cellular interstices, and through the pores of the skin by exuda- tion.
244.	14. r. <i>recesserunt</i> .		
259.	6. r. <i>martiales</i> .	601.	3. r. operation.
	9. r. enjoined.	604.	18. r. <i>melasicterus</i> .
287. <i>ab imo</i>	2. r. humour.		
310. <i>ab imo</i>	4. r. <i>lie</i> quiet.		
313.	13. r. slighter		
317. note,	r. <i>Denman</i> .		
318.	11. for The complaints, r. These symptoms.		
333.	22. r. defluxion.		
365.	4. for suppression, r. oppression.		

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C O N T E N T S.

P A R T I.

B O O K I.

General Description of the Human Body, and Summary
View of the Animal Oeconomy.

CHAP.		Page
I.	<i>THE human Body divided into three Systems; and a General View of the Solids</i>	1
II.	<i>General View of the Fluids</i>	7
III.	<i>Powers that animate the Human Body</i>	17
IV.	<i>Motions carried on in the Vascular, Nervous, and Cellular Systems</i>	21
V.	<i>Actions resulting from the Animal Faculties of desiring, knowing, and moving.</i>	30

B O O K II.

ANALYSIS OF DISEASES.

I.	<i>General View of the Symptoms or Component Parts of Diseases</i>	33
II.	<i>How to distinguish the Causes of Diseases</i>	38
III.	<i>Particular Description of that State of the animal Motions on which the Conditions of perfect Health depend</i>	42
IV.	<i>Excess of Animal Heat considered as a general Symptom, or Species of simple morbid Affection</i>	44
V.	<i>Sensation of excessive Cold, considered as a Species of Morbid Affection</i>	51
VI.	<i>Of Sickness, or Nausea, its Causes and Consequences</i>	56
VII.	<i>Of Thirst, considered as a general Symptom or Species of Morbid Affection</i>	57
	VIII. <i>Of</i>	

C O N T E N T S.

CHAP.	Page
VIII. <i>Of Pain, its actual or immediate Cause, and necessary Consequences</i>	59
IX. <i>Itching, considered as a Species of Morbid Affection</i>	62
X. <i>Restlessness, or Inability to Sleep, considered as a Species of Morbid Affection</i>	63
XI. <i>Of Somnolency, or an unnatural Propensity to Sleep</i>	65
XII. <i>Of Anxiety, or Sense of Oppression about the Præcordia</i>	66
XIII. <i>Of Difficulty of Breathing, its Causes and Consequences</i>	69
XIV. <i>Weakness, considered as a Species of Morbid Affection</i>	72
XV. <i>Of Spasm</i>	75
XVI. <i>Of Insensibility</i>	77
XVII. <i>Excess of Sensibility</i>	79
XVIII. <i>Of Delirium</i>	80
XIX. <i>Inferences from the foregoing Inquiry concerning the general Symptoms of Diseases</i>	81
XX. <i>Of the remote, or possible Causes of Diseases</i>	83
XXI. <i>Enumeration of partial or local Symptoms</i>	101
XXII. <i>Sexual Symptoms, and such as are peculiar to the Infant State</i>	118
<i>General Table of Symptoms</i>	125

B O O K III.

Methods of distinguishing and arranging Symptoms and Diseases.

I. <i>Symptoms distinguished into ordinary, accessory, and extraordinary</i>	129
II. <i>Diseases arranged according to the Systematic Method, into Classes, Orders, Genera, and Species</i>	131
<i>General Table of Diseases</i>	137

B O O K

C O N T E N T S.

B O O K. IV.

Theories of the several Orders of Diseases, and Division
into Genera.

CHAP.	Page
I. <i>Of Fevers in general, their Rise and Progress</i> —	141
II. <i>Of the general Causes of Fevers</i> —	146
III. <i>Division of Fevers into Genera</i> — —	151
IV. <i>Of the Crisis in Fevers, and Doctrine of Critical Days</i>	153
V. <i>General Description and Theory of Inflammations</i>	157
VI. <i>Of the different Ways in which an Inflammation may terminate; Resolution, Exudation, Suppuration, Gangrene, Scirrhus</i> — — —	164
VII. <i>Theory of Fluxes, and Division into different Genera</i>	170
VIII. <i>General Theory of the painful and spasmodic Diseases, and Division into Genera</i> — —	173
IX. <i>Weaknesses and Privations, their different Genera</i>	180
X. <i>Asthmatic Diseases, divided into Genera</i> —	181
XI. <i>Mental Diseases, their different Genera</i> —	182
XII. <i>Cachexies or humoral Diseases, their different Genera</i>	184
<i>Table of the Genera of universal Diseases</i> —	187
XIII. <i>The several Orders of Local Diseases, divided into Genera, with their Descriptions</i> — —	189
XIV. <i>Genera of Sexual and Infantile Diseases</i> —	198
<i>Table of the different Genera of Local, Sexual, and Infantile Diseases</i> — — —	202

C O N T E N T S.

B O O K V.

Semeiology, or the Doctrine of Signs.

CHAP.		Page
I.	<i>Signs of Diseases in General</i> — —	209
II.	<i>Signs derived from the Pulse</i> — —	212
III.	<i>Signs derived from Respiration</i> — —	219
IV.	<i>Signs which denote Disorder in the Nervous System</i>	222
V.	<i>Signs derived from different Eruptions, and other external Appearances</i> — — —	225
VI.	<i>Signs derived from different Appearances of the Blood</i>	228
VII.	<i>Signs derived from the Urine</i> — —	230
VIII.	<i>Signs derived from the Sweat</i> — —	236
IX.	<i>Signs derived from different Appearances of the Stools, and of the Discharges by Vomiting and Expectoration</i>	238
X.	<i>A synoptical View of what is contained in Hippocrates, relating to the Prognosis in Diseases</i> —	240

B O O K VI.

General Scheme to preserve Health.

I.	<i>Rules for the Management of Valetudinarians</i> —	255
II.	<i>Rules for those who enjoy perfect Health</i> —	262

B O O K

C O N T E N T S.

B O O K VII.

General Scheme of curing Diseases.

CHAP.	Page
I. <i>General Methods of Cure respecting disordered Motions of the Vascular System.—Intenseness</i> ———	265
II. <i>General Methods of Cure with respect to Remissness or Suspension of Motion in the Vascular System</i> —	279
III. <i>General Methods of Cure respecting disordered Motions of the Nervous System</i> ——— ———	283
IV. <i>General Methods of Cure with regard to correcting offensive Matters in the first Passages, and restoring Soundness to the general Mass of Fluids</i> ———	286
V. <i>Methods of increasing particular Secretions and Discharges; and Remedies for restraining such as are excessive</i> ——— ——— ———	290

b

P A R T

C O N T E N T S.

P A R T II.

General Plan of the Practical Part Page 301

B O O K I.

F E V E R S.

CHAP.	Page
I. <i>Of continued Fevers, their Distinctions into different Species</i>	303.
II. <i>Methods of Treatment in Cases of Simple Continued Fever</i>	306.
III. <i>Description and Method of Treatment of the Continued Inflammatory Fever</i>	310.
IV. <i>Description and Method of Treatment of the Slow or Nervous Fever</i>	318.
V. <i>Description, and Method of Treatment, of the Putrid Continued Fever</i>	324.
VI. <i>Varieties of the different Species of Continued Fever</i>	332.
VII. <i>History of Intermittent Fevers or Agues, and Methods of Treatment</i>	342.
VIII. <i>Varieties of the different Species of Intermittent Fevers</i>	350.
IX. <i>History of Remittent Fevers; Division into Species, and Methods of Treatment</i>	354.
X. <i>Varieties of the different Species of the Remittent Fever</i>	359.
XI. <i>Different Species of Eruptive Fevers distinguished</i>	362.
XII. <i>Of the Small-Pox. History of the Disease, and Method of Treatment</i>	364.
XIII. <i>Varieties of the Small-Pox</i>	371.
XIV. <i>History of the Measles, and Method of Treatment.—Varieties</i>	376.
XV. <i>History of the Scarlet Fever, and Method of Treatment.—Varieties</i>	380.
XVI. <i>History of the Erysipelatose Fever, and Method of Treatment.—Varieties</i>	382.
6	XVII. <i>Of</i>

C O N T E N T S.

CHAP.		Page
XVII.	<i>Of the Miliary Fever. History of the Disease, and Method of Treatment.—Varieties.—Of the Aphthose Fever</i> — — —	384
XVIII.	<i>History of the Vesicatory Fever, and of the Plague, with the Methods of Treatment</i> — —	389
XIX.	<i>Hectic Fevers, their Description; Division into Species, and general Method of Treatment</i> —	393
XX.	<i>Of the Phthisis; Description and different Varieties, with the Methods of Treatment</i> — —	395
XXI.	<i>Of the Tabes; its different Varieties, and Methods of Treatment</i> — — —	400
	<i>General Table of Fevers</i> — — —	404

B O O K II.

I N F L A M M A T I O N S.

I.	General Methods of treating Inflammations	409
II.	Descriptions, and Methods of Treatment of the different Species of External Inflammation, which have no fixed Seat.—Phlegmon, Erysipelas, Boil, Carbuncle	418
III.	<i>Of the Ophthalmy, or Inflammation of the Eye</i> —	423
IV.	Descriptions and Methods of Treatment of the different Varieties of Angina or Quinsy — —	426
V.	Internal Inflammations; Descriptions, and Methods of Treatment of the Phrenitis and Otitis —	432
VI.	Inflammations of the Parts which line and fill up the Thorax. Carditis. Pleurisy. Peripneumony. Paraphrenitis — — —	435
VII.	Inflammations of the different abdominal Viscera.—Descriptions and Methods of Treatment — —	445
	<i>General Table of Inflammations</i> — — —	454

C O N T E N T S.

B O O K III.

F L U X E S.

CHAP.	Page
I. <i>General Indications for the cure of Fluxes</i>	457
II. <i>Different Species of Alvine Fluxes distinguished. Description, and Method of Treatment of the Cholera</i>	459
III. <i>Description, and Method of Treatment of the Dysentery</i>	463
IV. <i>Diarrhœa; Lienteria; Cœliaca; Hepatirrhœa; and Melena. Descriptions, and Methods of Treatment</i>	469
V. <i>Hæmorrhages; different Species, and Methods of Treatment</i>	474
VI. <i>Humoral Discharges. Ephidrosis and Diabetes. Methods of Treatment</i>	482
<i>General Table of Fluxes</i>	484

B O O K IV.

P A I N F U L D I S E A S E S.

I. <i>Of the Gout: History of the Disease; different Species; and Methods of Treatment</i>	487
II. <i>Of the Rheumatism: History of the Disease; different Species and Varieties; with the Methods of Treatment</i>	498
III. <i>Of the Ostocopus; its different Species</i>	506
IV. <i>Of the Headach; its different Species, and Methods of Treatment; and of the Otagia, or Earach</i>	507
V. <i>Of the different Species of Toothach</i>	509
VI. <i>Of the Pleurodyne, or Pain of the Side; its different Species, and Methods of Treatment</i>	511
VII. <i>Different Species and Varieties of Pain in the Stomach, and Methods of Treatment</i>	513
VIII. <i>Of the different Species of Colic, and Methods of Treatment</i>	518
IX. <i>Of the Lithiasis, or Stone</i>	528
X. <i>Of</i>	

C O N T E N T S.

CHAP.	Page
X. <i>Of the Ischuria; its different Species and Varieties, and Methods of Treatment</i>	534
XI. <i>Of the Proctalgia; its different Species, and Methods of Treatment</i>	539
<i>General Table of Painful Diseases</i>	541

B O O K V.

SPASMODIC DISEASES.

I. <i>Of the Tetanus, Catochus, and Locked Jaw; Descriptions and Methods of Treatment</i>	545
II. <i>Of the Hydrophobia; its different Species, and Method of Treatment</i>	552
III. <i>Of Convulsions, Epilepsy, Eclampsia, and Hieranosos; different Species, and Methods of Treatment</i>	554
<i>General Table of Spasmodic Diseases</i>	559

B O O K VI.

INABILITIES AND PRIVATIONS.

I. <i>Of the Comata, or Sleepy Diseases; different Species, and Methods of Treatment</i>	561
II. <i>Of the different Degrees of Palsy, and Methods of Treatment</i>	566
III. <i>Different Species of Fainting, and Methods of Treatment</i>	568
<i>General Table of Inabilities and Privations</i>	572

B O O K VII.

ASTHMATIC DISEASES.

I. <i>Of the Dyspnœa, Orthopnœa, and Asthma; different Species, and Methods of Treatment</i>	573
II. <i>Of the Hydrothorax, and Empyema</i>	582
<i>General Table of Asthmatic Diseases</i>	585

B O O K

C O N T E N T S.

B O O K VIII.

M E N T A L D I S E A S E S.

CHAP.		Page
I.	<i>Of the Mania, and Melancholia; Descriptions, and Methods of Treatment</i>	587

B O O K IX.

C A C H E X I E S, O R H U M O R A L D I S E A S E S.

I.	Of Corpulency, considered as a Disease	593
II.	Of the different Species of Dropsy, and Methods of Treatment	595
III.	Of the Jaundice; different Species, and Methods of Treatment	604
IV.	Of the Emphysema, Tympany, Physconia, Atrophia, Osteosarcosis, and Sarcoctosis	609
V.	Methods of treating the different Species of Mortification	612
VI.	Description of the Scurvy, and Methods of Treatment; with an historical Account of a new Method of curing the Scurvy at Sea	615
VII.	Description of the Scrofula, and Methods of Treatment	622
VIII.	Of the Cancer	625
IX.	Description of the Lues Venerea; and Methods of Treatment	627
	General Table of Humoral Diseases	637

APPENDIX,	containing an Account of the Effects of Wort or Infusion of Malt, in curing the Scurvy at Sea	639
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P A R T

PART I.

A

METHODICAL INTRODUCTION

TO THE

THEORY of PHYSIC.

PART I

METHODICAL INTRODUCTION

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METHODICAL INTRODUCTION

TO THE

THEORY of PHYSIC.

BOOK I.

General Description of the Human Body, and Summary
View of the Animal Oeconomy.

CHAP. I.

*The Human Body divided into three Systems; and a General View
of the Solids.*

THE business of physic is to prevent, alleviate, or remove the various diseases to which mankind is subject; but before the persons who devote themselves to this profession can properly fulfil the duties of their office, they must be made acquainted with the structure of the human body, and understand the animal œconomy as carried on during the state of perfect health; and hence it is, that anatomy and physiology ought always to be the first objects of the student's attention: but as we presume our readers to be already instructed in these preliminary branches of medical knowledge, we shall do nothing more than give a summary view, and make some necessary distinctions.

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When we consider the general texture of the human body, without regarding the particular form, situation, or connection of its several organs, instead of dividing it, as hath heretofore been done, only into solids and fluids, or into parts containing and parts contained, let us make three divisions, and comprize the whole under the denominations of vascular, nervous, and cellular systems.

By vascular system is meant all that part of the body which consists of tubes, or continued canals, filled with blood and other gross fluids: the nervous system includes the medullary part of the brain, and the spinal marrow, with all the chords and filaments which spring from either, and which are presumed to be imbrued with a most subtile fluid: and by cellular system we are to understand all those pores and intersected cavities, filled with lymphatic and oily fluids, which are formed by the various intertexture of vessels and nervous filaments, and of solid fibres and lamellæ, which bind these together, and thus make up the remainder of the human fabric.

By this scheme of division we take in both solids and fluids, and thereby avoid the difficulty of fixing the precise limits of either: But before we proceed any farther, it is necessary to make a distinction with respect to the solids.

The nervous filaments, from their being the more immediate instruments of motion and sensation, have been called living solids; which term we shall take the liberty of extending to the vascular system also, because there is a perpetual motion kept up in every part of it, and the fluids are propelled through all the different species of canals, in consequence of certain powers communicated to the substance which constitutes the sides of the vessels.

These living solids are so called, in contradistinction to that inorganic concrete, which makes up so great a share of the substance of bones, ligaments, and cartilages, and to those inert fibres and laminae, which form the nails and cuticle, and bind together all the
minute

minute vessels and nervous filaments, thereby leaving innumerable small cavities or pores, all comprehended under one general denomination of cellular system.

The distinction then, with regard to the solids, is, into solida viva, and solida inertia; living solids, which go to make up the vascular and nervous systems; and inert solids, which form the hard parts, and help to constitute the cellular system.

Let us now go on, and inquire into the nature and extent of each of the three systems.

VASCULAR SYSTEM.—The vascular system has the heart for its center; that is to say, all the tubes or canals which are comprehended in this division, either carry fluids out from the heart, or return and convey them to it.

Though all animal motion seems to derive from the nervous system, and although the heart, like every other muscle, can act no longer than the communication through the nerves which are bestowed on it remains free, yet still there is a necessity for distinguishing between the nervous and vascular systems; because it will appear, when we come to inquire into the nature of diseases, that there may be evident disorder in one, while little or none shall appear in the other.

The vascular system comprehends every species of artery, vein, sinus, duct, and absorbent vessel, and may be distinguished into circulatory vessels, secretory vessels, excretory vessels, and absorbents.

The circulatory vessels include all the arteries, which, springing from the aorta and pulmonary artery, carry out the general mass of blood; and all the veins, which being reflected back, and uniting at the two great venous sinuses, return it, and thus maintain a perpetual circulation.

By secretory vessels we understand all those minute tubuli in the different organs which are adapted for the purposes of secretion, and

which are presumed to separate, and strain off the different humours from the general mass.

By excretory vessels are meant those tubes or ducts (as they are most frequently termed) which also belong to the different organs of secretion, whose office is to carry off the humours which are separated, and either convey them to appropriated receptacles, where some of them are deposited, or discharge them out of the body.

The absorbents are tubes furnished with valves, which convey fluids that are taken up by absorption, from the external surface of the body; from all the larger cavities containing the different viscera, and from the surfaces of these viscera; from the whole cellular system; and from the alimentary canal.

The fluids which are taken up by the absorbents, are supposed to be all, or mostly, carried to the canal, termed the thoracic duct, which empties itself into the left subclavian vein; and this again, very quickly, unloads itself at the right auricle of the heart.

The absorbents are of two kinds; lacteals, which take their rise from the alimentary canal, and, running along the mesentery, convey the chyle to the general receptacle of that fluid; and valvular lymphatics, which spring from all the other different places that were mentioned as giving rise to absorbents, and drink up the lymph and other subtile fluids or matters, which come into contact with the various surfaces and cavities, where there are bibulous pores to admit them.

NERVOUS SYSTEM.— As the heart is the center of the vascular system, so we may consider the brain as the basis of the nervous.

Since it is observable in certain diseases, that the muscular strength shall be totally exhausted, and yet the powers of sensation and perception remain intire; and on the other hand, that the muscles shall sometimes exert prodigious strength, while the senses are all locked up; we seem authorized in supposing there is a distinction in

the nervous system, and that there are two sets of nerves; the one adapted principally for the purposes of perception and sensation, and bestowed on the several organs of sense, internal and external, while the other is blended with the muscular fibres.

The old physiologists actually did make a distinction, and imagined that the different appearance of the nervous chords served to justify it, since some are found of a firmer and harder texture than others; these were supposed to belong particularly to the muscles, while the more soft and pulpy nerves were looked on as appropriated to the organs of sense: but more accurate observers have found that this mode of distribution is not constant; and that there is no possibility, from mere anatomical investigation, to say that there is any material difference between the nerves that lead to the organs of sense, and those which are bestowed on the muscular fibres; for every nervous chord which is large enough, and lies conveniently for making experiments on, in the living animal, is found to contain or transmit some subtile fluid, which is the immediate instrument of both motion and sensation.

CELLULAR SYSTEM.— We have now taken a cursory view of the living solids; but all the different species of vessels, which either rise from, or terminate at, the heart; and all the nervous chords, or filaments, which spring from the brain, or spinal marrow, however variously they may be combined, disposed, or interwoven, yet are they universally connected, and bound together, by a fibrous and laminated substance, which is not endowed, like the living solids, with either sense of feeling, or power of motion.

By this mechanism, the life and health of animals are capable of being maintained; which could not be, if every fibre in the body were a living solid, and if the solids of the cellular system were endowed with the like powers of motion and sensation as those which help to constitute the vascular and the nervous systems. For

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we see, that the nerves and different species of vessels being susceptible of feeling and irritation, have their motions disordered, or perhaps interrupted, by the application of various matters, which we know may lie, without injury, in the cavities of the cellular system, among the inert solids which compose this part of the animal fabric. But this matter will be fully illustrated on many occasions hereafter, when we come to consider the rise and progress of certain diseases, where it will appear that the fluids in the cellular system may either stagnate or deviate far from the sound state, without disordering the motions of the living solids.

The idea therefore that we are to form of the inert solids is, that they not only constitute such parts of the body as have neither nerves nor vessels, (namely, the cuticle and its continuations; the nails; the hairs; great share of the substance of bones, cartilages, ligaments, tendons, and thin membranes;) but that these inert solids also form the connecting medium every where between the living solids, binding together every minute vessel and nervous filament, and that as there are innumerable nerves and vessels in all parts of the body, excepting those above-mentioned, which no eye can trace; yet, if we reason from analogy and say, that the smallest branches and filaments are like the visible trunks and chords, then the transverse sections of these must be circular; and consequently when they come to be interwoven, or laid together, they must universally leave intermediate pores, or minute cavities: hence we may understand, that though there be some parts of the body which have neither nerves nor vessels; i. e. no living solids; yet there is no place in the whole fabric whereunto the cellular system does not extend, and where there is not some mixture of the inert solids.

That the cellular system extends itself universally throughout the whole frame, and has a general and free communication, seems fully proved by the diseases termed emphysema and anasarca, where, in
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the first instance, elastic air is found to diffuse itself, and pass from pore to pore, and cell to cell, to the innermost recesses of the body; and in the latter case, a thin watery fluid is often seen to spread itself in like manner.

In the natural and healthy state, the cavities of the cellular system are filled either with lymph or with oil; consequently, it requires to be distinguished into two parts, the lymphatic and adipose.

The pores, or minute cavities of the lymphatic part, are always to be understood as interposed between every even the smallest vessel and nervous fibril; whereas the adipose cells are not so universally extended, the fat or animal oil being always lodged in distinct bags or vesicles.

Wherever there is a necessity for oily fluids in any particular part of the body, there is a certain apparatus peculiarly adapted for containing and hindering them to spread further than is requisite for the purposes of the animal œconomy; for if things were not so ordered, this oil would be liable to diffuse itself as freely throughout the cellular system at large, and would be equally distressing and fatal, with the spreading of water in the anasarca, or of elastic air in the emphysema.

C H A P. II.

General View of the Fluids.

IF the alimentary canal be excepted, and the aspera arteria, with its productions, which are occupied by atmospheric air, all the various canals and cavities, in every part of the body, are filled either with blood, or humours separated from the blood, or with chyle.

The whole mass of animal fluids may therefore be comprised under one or other of these three heads, each of which shall be briefly considered:

BLOOD.—While the blood is warm, and flowing from the vessel, it appears of an uniform red colour and consistence, feeling to the touch viscid and tenacious; but when it cools, it loses its fluidity, and settles into a coagulated mass, which is of different degrees of firmness in different subjects.

After a few hours, more or less, according to the state of the atmosphere, and other circumstances, which we shall have occasion to take notice of hereafter, this coagulated mass of blood emits a moisture from every part of its superficies, which by degrees collects into a quantity of watery fluid, sufficient to detach the coagulum from the sides of the vessel which received it, and set it afloat like an island in the midst of a liquid, which is termed Serum, as the red coagulated cake is termed Crassamentum.

The serum in the healthy state is almost colourless; at other times it is yellowish, or perhaps of a greenish hue, while the top of the crassamentum has different degrees of firmness, and puts on a different appearance with respect to colour, according to the age, sex, and state of health of the subject, from whence the blood is drawn.

The serum of blood, like the white of an egg, coagulates, when alcohol, or any of the mineral acid spirits are mixed with it, or when heated to about the 160th degree of Fahrenheit's scale; but otherwise it continues in the liquid state.

The crassamentum is composed of a peculiar substance which gives redness to the blood, and of what physiologists term the Coagulable Lymph, from its coagulating spontaneously. This coagulable lymph may be separated from the red part in two ways; either, by stirring blood that is fresh drawn, with a whisk, when the lymph, coagulating in a short time, will adhere to the twigs, and appear like a firm membrane of a whitish colour, composed of fibres interwoven with each other; or, by placing a piece of the crassamentum on a strainer, and pouring on water repeatedly, until the red particles being all washed away, shall leave only the whitish fibrous substance behind.

Neither chemists nor physiologists are as yet perfectly acquainted with the nature of this colouring matter, which is thus capable of being detached from the serum and coagulable lymph; the only thing

thing in which they seem to be thoroughly agreed is, that the redness of blood does not depend on the union of fix ferous or yellow globules, according to the notion which was taught by the celebrated Boerhaave, and which he appears to have embraced on the credit of Lewenhoeck, who imagined he saw with his glasses that fix globules of serum, which when separate were of a yellow colour, combined together to form one red globule.

The blood therefore was supposed to be a fluid, consisting of globules of different magnitudes, decreasing in a regular series; for the ferous globule was supposed to be made up of fix lymphatic globules, the lymphatic globule of fix others still finer, and so on, till they came to that which was held to be the finest and most subtile of all the animal fluids, namely the nervous fluid.

According to Boerhaave's idea, the diameters of the vessels also decreased in this regular series, perfectly corresponding with the size of the globules; but these notions are now pretty much exploded; for notwithstanding the microscope has been carried to much higher degrees of perfection than it was in the hands of Lewenhoeck, people cannot perceive this union of the fix globules, neither do the vessels appear to decrease in that regular series that Boerhaave imagined.

Some of the physiologists look on the red part of the blood, as chiefly consisting of oily or inflammable matter; while others deny that it is more inflammable, or yields more oil by distillation, than the residuum of the serum, or the fibrous substance that is formed of the coagulable lymph. M. de Haller conjectures, that the iron which is found in the earthy part of blood is particularly connected with the red particles, and this conjecture of his appears to be founded in truth, if we may believe the experiments of professor Buchwald at Copenhagen, who published a small dissertation in 1762, "De Rubro Sanguinis Colore."

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white part of the crassamentum from which the red particles had been intirely washed off, and calcined it, along with a certain portion of fixed alkaline salt; then he dissolved this mass in water; and, lastly, added a solution of alum; but the colour was not changed by this addition of the alum.

He then calcined a quantity of the red crassamentum along with fixed alkaline salt, and having dissolved the mass, added solution of alum: this immediately turned blue, and yielded a portion of the blue pigment, called Prussian blue, which is a sure test of the presence of iron; hence Dr. Buchwald concludes, that the red colour of blood is owing to a mixture of some portion of ferrugineous matter.

When we consider how generally the ore of iron is diffused throughout the bowels of the earth, and how easily it may be dissolved in water by means of saline particles, equally common, and being mixed with water, must be drunk by animals, and also enter into the juices of plants which serve them for food; it then ceases to be a wonder that traces of this metal should be found in the blood.

In confirmation of this notion it may be observed, that the blood always becomes florid after a course of chalybeate medicines; but whether that arises chiefly from the addition of ferrugineous matter, or whether it may not be owing to the increased motion which these medicines always produce, will admit of some dispute; for it is always found, that the blood grows more red in proportion to the action and strength of the vessels.

The proportion of red is small in respect of the other constituent parts, for one grain weight of this colouring matter, will tinge, in a perceivable degree, a thousand of pure water.

So far with respect to the different parts of the blood, as they appear from spontaneous separation; but physiologists have called in

the aid of chemistry to enable them the better to understand the nature of blood, and shew the different kinds of matter which constitute this fluid, as well as the animal substance in general; though it must be confessed that chemical analysis does not exhibit the true principles, nor does it shew even such as are produced in a state of perfect simplicity; however, it enables us to speak intelligibly concerning the changes which happen with respect to the combination of insensible particles in animal fluids, and is therefore of some use.

For as animal fluids consist of different insensible particles, which are endowed with their several powers of elective attraction, they may be considered as chemical mixtures, capable of forming a variety of different combinations.

The chemical analysis being of so little importance with respect to practical utility, we shall do little more than enumerate the different constituent parts, into which the blood may be resolved by the force of fire.

There is, first, the watery part, which is by far the most abundant, not only in blood, but even in those parts of the body wherein apparently there is great driness, hardness, and solidity. Bones, after they have been dried, and kept until they have become almost as hard as iron, have been found to yield by distillation one half their weight of watery fluid.

Secondly; there is the earthy part, which remains after every thing else has been raised and dissipated, and which resists the action of fire and water. According to some physiologists, the earthy principle is the thing which gives firmness, solidity and cohesion to the animal substance. In that earth which remains after the distillation of the blood, there is found a small portion of a metallic calx, which by proper management may be reduced to iron.

The third constituent part is the saline; this is partly of a fixed nature, remaining with the earth in the bottom of the retort; and partly volatile, rising along with the watery and the oily parts in distillation.

The fourth is the oil, of which, in the blood of persons in health, there is found to be about an eighth part.

Lastly; there is the aerial part, which escapes intirely in the distillation, if the apparatus be not particularly contrived for preventing it: this being most abundant in the hardest and most solid parts of the animal substance, hath hence been held by many as the cementing principle on which firmness and cohesion particularly depend. This fixed air, which can only be separated from bodies by the force of strong fire, or which flies off from them while they are undergoing a spontaneous decomposition, must never be confounded with the air which is mixed with the blood, or lodged in the pores of solid bodies, and which extricates itself from these in the exhausted receiver of an air-pump.

Thus it appears from chemical analysis, that the constituent parts of the blood, as well as of the solid substance of the human body, are watery, earthy, saline, oily or inflammable, and aerial.

SECRETED HUMOURS.—All the different secreted humours are strained off, or separated from the blood in different parts of the body, by means of certain organs formed for that purpose.

Of these fluids some are so very subtile, that they do not fall under cognizance of the external senses, so that their existence can only be proved from analogy; others of the secreted humours are gross, and may be subjected to chemical analysis, and other modes of investigation.

GROSS HUMOURS.— These gross fluids have been classed by some of the physiologists, who divide them, 1. Into watery, wherein the aqueous part of the blood predominates. 2. Mucous, wherein the more fixed or earthy part is evident. 3. Gelatinous, wherein the coagulable lymph is manifest: And 4. Oily, wherein the inflammable principle is conspicuous.

Perhaps this scheme of division is not altogether accurate, however, as it is the best that has hitherto been offered, we shall adhere to it, and consider the general mass of the gross secreted humours as comprehended therein.

The watery humours in general are devoid of ropiness or tenacity, and evaporate without coagulating, or leaving any remarkable portion of residuum.

The perspirable matter; the urine; the tears; the humours of the eye; the fluid separated by the salivary glands, and the pancreatic juice, are all held to be watery humours.

The mucous are distinguishable by their viscosity; they are insipid to the taste, and for the most part without smell or colour, miscible with water, but do not coagulate with heat, nor when mixed with the mineral acids, or ardent spirit; when evaporated over the fire, the mucous humours leave a considerable portion of residuum.

To this head belongs the slimy fluid, which defends the inside of the mouth, nose, and fauces, as well as the aspera arteria, and all its branches dispersed throughout the lungs; which also lubricates the whole extent of the alimentary canal, the uropoietic organs, and the insides of the uterus and vagina.

The feminal fluid is reckoned among the mucous humours; but the synovia of the joints, and the slimy fluid contained in the tendinous sheaths, partake full as much of the gelatinous as of the mucous quality.

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The gelatinous humours, in the sound and natural state, are devoid of ropiness or tenacity, and seem equally fluid with the watery; but on being heated they coagulate like the white of an egg; and when mixed with ardent spirit, or with strong acids, they run into grumous flakes.

The lymph that is found in the valvular lymphatics is a gelatinous fluid, a proof that this is the fluid which occupies one part of the cellular system, and bedews all the larger cavities. The liquor gastricus, and liquor intestinalis, that ouze from pores in the inner coats of the stomach and intestines, are gelatinous humours, and so have some physiologists imagined the liquor amnii, in which the foetus swims.

The oily humours are chiefly distinguished by their inflammability: to these we refer the animal oil of all kinds, whether it passes under the denomination of fat or marrow. These fluids, as hath been already noticed, are, in the natural state, always confined in distinct cells or vesicles, appropriated to that particular purpose.

The cerumen, or ear-wax, is reckoned among the oily fluids, and so are the bile and the milk, though perhaps not with the strictest propriety, as oil does not appear to be the predominant principle in either of these two last mentioned.

Of these various fluids, some are excrementitious, and thrown out of the body as superfluous, or effete and useless; the rest are retained in canals or receptacles, for answering different purposes in the animal œconomy: some of these which are retained are in constant motion; others are allowed to stagnate, either in cellular and vesicular cavities, or in cysts particularly appropriated to that use.

SUBTILE FLUIDS.—The subtile fluids, whose existence we cannot actually prove, but which nevertheless is presumed by the physiologists, are the nutritious lymph, and the nervous fluid.

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NUTRITIOUS LYMPH.—The old physiologists conceived that there was some subtile fluid adapted for the purposes of nutrition, to which they gave the name of cambium; this they imagined was distributed throughout what they termed Porositates Carnium.

In like manner, the moderns presume that there is a subtile lymph, which cannot be comprehended under any one of the aforementioned divisions of secreted fluids, which answers the purposes of nutrition, and contains the particles that repair waste, and add to the solid bulk of the body.

Whether this be the same with the nervous fluid, as some physiologists have taught, or whether it be a fluid sui generis, whenever it is applied for the purposes of nutrition, we may suppose that it is applied not solely to the insides of the minute vessels, in which there is a perpetual flow, but chiefly to the pores or cellular interstices in every part of the body.

Because we know there are some parts of the animal structure in which there are no vessels, particularly the cuticle and its continuations; the nails; and the hairs; yet we see these parts are nourished, and speedily renewed, when at any time they are destroyed or abraded, which could not possibly take place if the nutritious matter were applied only to supply defects in the vessels that are supposed to distribute it.

The general and free communication which obtains throughout the whole cellular system, shews how easily nutritious particles, when conveyed by a subtile fluid, may, in this way, be diffused over every part of the body.

NERVOUS FLUID.—Notwithstanding the impossibility of demonstrating a nervous fluid, or of saying precisely in what manner the nerves are imbued with this subtile matter, yet, when we consider the large quantity of blood which circulates through the vessels
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of the brain, we can scarcely doubt, but a secretion is carried on there.

The nerves are the only apparent excretory ducts, but whether the fluid be conveyed in minute tubuli, or whether it be conducted along the filaments, like an electric fluid, are points that probably will never be cleared up; and we must rest contented, with only knowing in general, that sensation and motion depend on the free transmission of somewhat which is derived from the brain, and passes along the nerves to the several organs of sense, and to every muscular fibre.

CHYLE.—The only animal fluid that now remains to be mentioned is the chyle, which is taken up by the lacteals from the alimentary canal, where it is prepared from the different substances we eat and drink; these, when mixed with certain portions of saliva, bile, and the other juices supplied by the pancreas, and coats of the stomach and intestines, pass through a fermentatory process of a peculiar kind, which is termed digestion.

The result of this process is the fluid now under consideration, which, being absorbed by the lacteals, is by them conveyed to the thoracic duct, and from thence poured into the left subclavian vein; the whole of the fluid, however, wherewith the lacteals are filled, is not chyle, but partly water, with a solution of such substances as are not capable of being altered by digestion.

Thus have we taken a general view of the three systems, which, being combined together, make up the animal machine.

C H A P. III.

Powers that animate the Human Body.

I N compliance with the mode of expression usual among medical writers, the corporeal part of man is called a machine; but the reader is not to expect that the motions which it is capable of performing will be explained on mechanical principles; because a very slight examination of what has been hitherto attempted in this way, must convince every one, who is open to conviction, that all such explanations are vain and fallacious.

The nervous system, on which both sensation and motion seem immediately to depend, is so totally beyond the reach of anatomical investigation, that it would be in vain to think of applying mechanical reasoning to that part of the human fabric; and as to the vascular system, though many ingenious men have wrought with great assiduity in measuring the diameters of vessels, and calculating the forces of the heart and arteries, yet when we see them differ so very widely in their conclusions, we may easily be persuaded that all their labour has been to little purpose.

If some physiologists have gone too far in the way of mechanical reasoning, and have made man little more than a machine; others again, by referring every thing to the spiritual part, seem to make no account of those changes which happen in the animal motions, independent of the mind.

But here it falls out, as it does in most other disputes, they err in carrying things to the extreme; for though it be impossible to comprehend the essence, or intimate nature of that immaterial, intelligent, and immortal principle which is within us, and which we express by the word Soul; or to know in what manner it either acts, or is acted upon; yet there can be no doubt that the soul and

the body reciprocally influence each other; and that the animal motions are equally capable of being changed, in consequence of things which cannot possibly affect us in any other way than through the mind, as well as by things which are immediately applied to the corporeal part.

Most of the various diseases to which the human body is liable, arise from changes which happen in consequence of things that act immediately upon the corporeal frame; and hence the power of physic, because, by means of this art, we can often change the state of the corporeal frame, and, of course, regulate the disorderly motions to which it is incident.

The art of physic produces its effects, partly by means of what the physiologists term *vires inanimatæ*, and partly through a peculiar property, called irritability*, which is inherent in the motory fibres of animals.

In the term *vires inanimatæ* are included all those powers which produce cohesion in the solids, or raise the different kinds of intestine motion among the insensible particles of the fluids.

Of the intimate nature and essence of these powers, philosophers know as little as they do of that of the soul; they are only convinced that such powers do exist, that they are inherent in different kinds of matter, and that they can often be restrained or excited by human art.

In general, these powers are termed elective attraction, and repulsion; because the particles seem as if they were endowed with the power of choosing which kinds they will unite with, or fly off from.

* As irritability necessarily implies mobility of the animal fibres, this does not require to be considered as a distinct property.

With respect to irritability, we can say no more than that it is a property bestowed on the motory fibres of animals, and that there is no such thing observed in vegetable life*.

In consequence of this property, the muscular fibres, and those which form the coats of all the different species of vessels, canals and receptacles, are seen to move, as it were, spontaneously, alternately contracting and relaxing themselves, even when cut out and detached from the body; and may be restrained or excited to motion, by the application of various substances.

This hath been proved by a multitude of experiments, published by different authors, which shew that the general circulation of the fluids in the vascular system, chiefly depends on irritability; as also the different excretions, and the peristaltic motion of the whole alimentary canal.

This property is likewise to be held as a requisite foundation of the power of voluntary motion; for if we may be allowed to make a comparison, the soul would be no more capable of moving any particular muscle, or set of muscles, if their fibres in general had not the property of irritability, than a musician would be capable of bringing music out of a violin, if its strings were not endowed with the property of elasticity.

And if we are permitted to carry on the allusion, the motions and actions of living animals may be likened to musical sounds; being all of them the joint result of instruments constructed in a particular way, and formed of materials endowed with certain intrinsic properties, and of extrinsic powers, acting on these instruments; for we should look on the soul as equally distinct from the corporeal frame, and from the properties inherent in the materials which compose the body, as the hand of a musician is from the instrument he plays on.

* Unless the property bestowed on sensitive plants be allowed to approach to that of irritability.

As the perfection of musical melody depends on the particular mechanism of the instrument and actual state of the materials which compose it, (with respect to the properties of elasticity, &c.) and on the dexterity of the musician, conjoined; so the perfection of animal action depends on the corporeal structure, the actual state of irritability and vires inanimatæ, and on the peculiar powers of the soul conjoined.

If the structure of a musical instrument be incomplete, or injured, or if the materials which compose it be deficient, or disordered with respect to intrinsic properties, then the music will deviate from, or fall short of the pleasing effort, notwithstanding the musician be supposed to exert all his dexterity; and in like manner, if the structure of an animal body be incomplete, or if the materials which compose it be disordered as to intrinsic properties, the actions will be irregular and defective, notwithstanding the soul should exert all its own peculiar powers.

It is owing then to the conjunct operation of the intelligent principle, vires inanimatæ, and irritability, that all the variety of motions and actions are carried on and performed by the living body.

By the word Nature, which is so very often made use of by medical writers, we are to understand the united force of all the different powers, and accordingly say, that nature conducts the animal œconomy, preserves the body in health, and often frees it from disease.

C H A P. IV.

Motions carried on in the Vascular, Nervous, and Cellular Systems.

HAVING pointed out the different powers which, being united, animate the body, we shall now proceed to shew the motions and actions produced by their conjunct operation:

MOTIONS of the VASCULAR SYSTEM.— In the vascular system the motions are sufficiently evident, and capable of demonstration; but in the nervous system we have nothing to reason from but analogy, and the observation of effects.

The heart, as it is the center, so is it also, seemingly, the first mover of the vascular system.

The heart is possessed of an higher degree of irritability than any other muscle in the whole body; its motions consist of alternate contractions and dilatations termed systole and diastole: by the systole the blood is expelled from the ventricles, which, during the diastole, had been received into them from the auricles and venous sinuses. But we are to observe, that, besides these, there is a subsultory motion, when the apex of the heart leaps up, and strikes against the ribs, so as plainly to be felt when the hand is applied to the left-side of the chest.

This subsultory motion is synchronous with the systole, and unless the strength be nearly exhausted, is constantly performed; but when the powers of life are brought very low, then it is scarcely perceivable, and there is nothing but the systaltic motion, which is sufficient to empty the ventricles, and carry on life for some time.

The subsultory motion, according to a late writer *, is communicated to the whole arterial system, and is the chief cause of the pulsation

* There is a paper in the Memoirs of the Royal Academy of Sciences at Paris for the year 1765, intitled, “ Recherches sur la Cause de la Pulsation des Artères,” by M. de

pulsation in the arteries, which corresponds so exactly with the beating of the heart; for when the heart acts with strength, the beat of the artery is strong, and vice versa; hence the utility of examining the pulse.

When mechanical theories were much in fashion among physiologists, many ingenious men employed themselves in forming estimates of the strength of the heart, and of the weight which it might be supposed able to counterbalance during the instant of its contraction.

But when we see the prodigious difference that there is between their several conclusions, we must immediately be convinced of the insufficiency of all their calculations.

Borelli made it out clearly, as he thought, that the force of the heart was equal to 180,000 pounds weight, while Dr. Keill's calculation reduces the power of the left ventricle to five ounces.

M. de Lamure, wherein the author, after reciting the different opinions of ancient and modern physiologists, respecting the cause of the pulsation of the arteries, proceeds to shew, that this phenomenon does not depend, as is generally taught and believed, on the mere dilatation of the arteries, from the sudden increase of lateral pressure against their yielding coats, by the successive columns of blood which are forced into them; but that there is a displacing, or loco-motion of the whole canal, analogous to the subsultory motion of the heart.

He admits that the arteries are dilated every time the heart contracts; but proves that this dilatation does not cause that smart stroke or beating which constitutes the pulse, and that the increase of diameter is so small, that it can neither be seen nor felt except in the larger vessels, whereas the pulsation of even such small arteries as those which run on the coats of the intestines may be both seen and felt, and consequently their beating is owing to a vibration of the whole canal, and not to simple dilatation or increase of diameter.

The reasoning and experiments brought to disprove the commonly-received opinion are sufficiently satisfactory; but when M. de Lamure attempts to explain the way in which the loco-motion of the arteries is performed, he rather falls short. His notion, however may nevertheless be founded in truth, since the same difficulty remains with respect to the subsultory motion of the heart: no person can doubt that the heart leaps up, and strikes against the ribs; yet, where is the physiologist who can account for its so doing?

Such readers as have not an opportunity of consulting the *Memoirs* at large, will find an extract from M. de Lamure's Essay in the *Monthly Review*, vol. xli. p. 518.

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Dr. Jurin settled the whole at fifteen pounds four ounces; Tabor makes it one hundred and fifty pounds; and Dr. Hales fixed it at about fifty-one.

The like diversity occurs when we examine the calculations concerning the velocity of the blood or its quantity, so that there seems but little probability of ever seeing these matters adjusted by weight and measure.

That extreme degree of irritability which is peculiar to the heart, makes it capable of renewing its motions, even after it has seemed to cease from action: and this circumstance points out the rational method of procedure when we endeavour to revive persons drowned or strangled; for the thing to be attempted is, to put the blood, which is stagnating in the auricles and venous sinuses, into motion, so that being propelled into the ventricles, it may irritate the heart, and excite it to contraction anew.

And also, from this extreme irritability of the heart, may be deduced the great frequency of fevers, beyond any other species of disease; since every thing stimulant, that chances to be generated, or to gain admittance into the blood, can hardly fail of exciting the heart and arterial system to more frequent action.

The intervals between the contractions, as well as the degrees of force exerted by the heart, are different, according to the actual state and disposition either of the mind or of the corporeal frame.

When we are agitated by the joyful or angry passions, the motions of the heart are quick and strong; when depressed with grief or fear, they are slow and weak, and so on with respect to the other passions, each of which has its peculiar power over the motions of the vascular system.

The less remote from infancy, the more frequent are the motions of the heart; the farther we advance into life, the more slowly are these performed.

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Thus the pulse of an infant of six months shall beat a hundred and ten times in a minute, while that of a man of fifty shall not give more than sixty-five or seventy strokes in the same space of time.

Women also have the pulse more frequent, and more easily disturbed, *cæteris paribus*, than men. Hence in practice, when we come to form conclusions with respect to the motions of the heart, we are always to consider the different circumstances of age, sex, and constitution; for there are many people who have the pulse remarkably frequent, or remarkably slow, and yet enjoy a reasonable portion of health.

The contractile power of the arteries depends on two circumstances; first, the exertion of the muscular fibres of their coats, which are found from experiment to be as irritable as the fibres which compose the fleshy substances of the heart; and, secondly, the elastic nature of a peculiar substance, which constitutes part of the arterial tunics: this united power enables the coats of the arteries to restore themselves the instant that the force of the heart abates, and thus they force on the blood toward the circumference of the body.

Although the motion of the blood throughout the arteries depends, in great measure, on the power of the heart exerted at the center, yet it does not entirely depend on this power; for we may often observe, that the velocity of the blood shall be increased in particular sets of blood-vessels, at a distance from the heart; sometimes in consequence of various passions, and sometimes from the application of things which have an irritating quality: on this last circumstance, as will be explained in the proper place, depends part of the theory of inflammations.

There is also another circumstance, which will serve to illustrate the same theory, and that is, what M. de Haller terms *vis derivationis*; in consequence of which, if the power of resistance in the coats of any blood-vessel, whether vein or artery, be lessened or
taken

taken away, whether it be by opening, rupture, or otherwise, the current of blood is always found to press on toward that non-resisting part.

The power of motion, which is peculiar to the smaller blood-vessels, and which appears to act in aid of the force of the heart, for the purpose of carrying on the circulation in such parts of the vascular system as are too remote from the center, is termed the oscillatory motion.

This oscillatory motion is also supposed to have place in the various organs of secretion, and to carry on the circulation in the secretory and excretory vessels; but these vessels are so extremely minute, and so differently disposed and constructed in the different glandular parts, that it is impossible to estimate the precise rate or degree of motion in any particular organ. It is evident that there is great diversity with respect to these rates of motion, because we see some of the secretions very quickly performed, while others are remarkably slow: it is likewise evident, that the motions in all the different species of secretory and excretory vessels, like those in the circulatory vessels, are as much under the influence of the mind, as they are liable to be changed by things which act immediately on the machine, or corporeal part.

Thus, in consequence of different passions, or from the application of different substances, we may every day observe the various secretions to be either accelerated or retarded.

Though all the different humours which are separated, or strained off from the blood, have each their peculiar apparatus; yet when there comes to be a stoppage or obstruction, with respect to the secretion of any particular fluid, there ensues, for the most part, an evident increase of some other, in order to preserve a balance.

Thus we see, that in three parts of the vascular system, namely, the circulatory, secretory, and excretory vessels, the motions are

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either

either originally derived from, or greatly aided by the force of the heart; but in the absorbents, the motion of the contained fluids must depend intirely on the power of the vessels, except the assistance which is afforded from lateral pressure of the adjoining muscles and arteries.

Both lacteals and valvular lymphatics are found, by experiments made on living animals, to be extremely irritable; and hence we may presume, that the power of propelling their contained fluids depends on their irritability: but it does not appear that the absorbents are so remarkably liable to be affected by the mere power of the mind, as any of the other three kinds of vessels which make up the vascular system.

MOTIONS of the NERVOUS SYSTEM.—We have now gone through that part of the living solids wherein the motions are evident; as to the other part, which constitutes the nervous system, there is nothing to be depended on but probable conjecture.

From the experiments of compressing or dividing the nervous chords in living animals, it is sufficiently plain that there is a distribution or transmission of some subtile fluid along these filaments which derives from the brain, and is at least one undoubted and requisite medium of sensation and voluntary motion, as well as what gives strength to the living body.

But whether this fluid be contained in minute tubuli, or whether it be conducted along solid filaments, the physiologists are totally ignorant; neither do they pretend to know how, or at what rate, the nervous fluid moves, or is distributed.

It is presumed, indeed, that the nervous system, during life, is in a state of incessant vibration; not a vibration such as is peculiar to elastic chords, to which the nervous chords bear not the least resemblance, but the vibration of an elastic fluid; however, this, like
every

every other theory concerning the nerves, rests only on conjecture: but as there is nothing absurd in such a conjecture, and as it will at least enable us to speak intelligibly when we come to treat of the disorders of the nervous system, we shall assume the liberty of saying that there is a vibration of this sort; and that in consequence thereof, the organs of sense and instruments of motion become proper subjects for the soul to exert its powers on.

If this vibration and perpetual distribution of the nervous fluid be admitted, then it is reasonable to say, that in the natural and healthy state, the motions of the nervous system are equable, moderate, and free; in like manner, as we know from the pulse, that, in persons who enjoy perfect health, the motions of the vascular system are equable, moderate, and free.

Baglivi and Hoffman, with their followers, suppose the dura mater to be the first mover of the nervous, as the heart is of the vascular system; and they ascribe to this membrane a power of alternate contraction and relaxation, which they presume propels the nervous fluid, in like manner as the heart forces on the general mass of blood.

But it should seem that a very slight inspection of this membrane, which has nothing muscular in its texture, and which is in so many places attached firmly to the inside of the skull, might convince any person that the dura mater cannot possibly exert such force: there is indeed a twofold rising and subsiding of the whole substance of the brain, which is observable when part of the skull is removed, and the dura mater loosened from the cranium; for in these circumstances we shall see the brain rise every time that the heart is in its systole, and subside when in the diastole; and also, when the animal forces out its breath, the brain will be observed to rise and subside during the time of inspiration.

There is a general communication or consent, as it is termed, throughout the whole nervous system, in consequence of which we often observe, that motion and sensation shall be excited in parts at a distance, and seemingly unconnected with the nerves, where the impression is actually made; this constitutes sympathy: thus, a stroke on the head shall disorder the stomach, affect its motion, and occasion vomiting; while, on the other hand, a load of offensive matter in the stomach shall excite a severe pain in the head.

As to the manner in which the various sympathies are brought about, the physiologists are as little qualified to explain it, as they are to inform us concerning the intimate structure of the nerves, the nature of the nervous fluid, or the rate of its motion.

When we come to inquire into the nature of particular diseases, the most remarkable sympathies, as they have been observed by experienced practitioners, shall be pointed out; because a knowledge of these connections is sometimes of service in directing the application of remedies; not in explaining the causes of diseases, for if it be affirmed, for instance, that a pain in the head is occasioned by its sympathy with the stomach, and it be then asked, what is sympathy? we must answer, that sympathy is a fellow-feeling, or an affection of one part of the living body, in consequence of the affection of some other part; and thus it comes out, that the head is affected, because the stomach is affected, which is all the satisfaction that can be afforded by such scheme of reasoning.

MOTIONS in the CELLULAR SYSTEM.—We have only now to consider the motions which are carried on in the cellular system.

As the solids which constitute the cellular system seem perfectly inert, and devoid of all power of spontaneous motion, such as the living solids are endowed with; whatever degrees of progressive
motion

motion the fluids in this part of the human fabric have, must arise from the absorption of the valvular lymphatics, and from exudation, when the oil and lymph escape through pores, on different surfaces, in various parts of the body.

The attraction of gravitation has scarcely any power over the fluids in the vascular system, which appear to move as freely against gravity as with it; neither has it any perceivable effect on the fluids contained in the cellular system, while the body continues in full health and vigour.

But when the strength fails, and the circulation becomes weak and languid, then the absorbents begin to fail in their office, and the fluids of the cellular system being left to accumulate, fall down, and settle in the lower extremities, and dependent parts of the body, whence arise the swelled legs in aged people, and in persons who are weakened by diseases, bad diet, or profuse evacuations.

All these motions, hitherto spoken of, refer to the progressive motion of the animal fluids, whereby they are carried from one set of vessels or cavities into another; but beside this, there is an intestine motion, analogous to those termed fermentation, effervescence, and ebullition, which subsists among the insensible particles, and enables the fluids to form a great variety of different combinations.

This intestine motion is demonstrable in the juices of living vegetables, and seems to be the thing that keeps up the circulation in them, where the parts containing have no power of spontaneous motion, like the irritability observable in animal fibres; and no doubt but similar kinds of intestine motion contribute to keep up the circulation in the smaller vessels of animals, which are too far removed from the heart, and serve as a stimulus to irritate the living solids. Thus, in an animal body, motion goes on in a circle, the living solids propel the fluids, while these again stimulate the vessels which contain them.

C H A P. V.

Actions resulting from the Animal Faculties of desiring, knowing, and moving.

IN all living animals there are three powers of faculties, which they are observed to possess in different degrees and proportions, according to the several ranks assigned them by the Creator.

These are the faculties of appetite or desire; of knowing or distinguishing objects; and of moving.

As man is placed at the head of the creation, he is endowed with powers which far excel what are bestowed on any order of brute animals; his body is formed and fashioned so, as on the whole to surpass even the most perfect of these; and his soul is made capable of exertions, vastly superior to any thing that can be observed among the creatures over whom he exercises dominion.

Hence philosophers have distinguished between the faculties which are of an inferior nature, and which man possesses in common with the brute creation, and those of a superior, which are peculiar, and give him the acknowledged pre-eminence and command.

To these distinctions they have affixed different appellations, but the design of the present work does not require that we should enter into such detail; neither does physiology demand any thing further than to consider the several corporeal actions, which are distinguished into voluntary, spontaneous, and mixed.

Voluntary actions are those which are the result of reason and the will, and performed with different degrees of deliberation and consciousness.

Spontaneous are those which flow from instinct and appetite, and over which reason and the will have no controul; these are produced without consciousness or deliberation.

Mixed actions are those wherein it is difficult to say whether reason or instinct, appetite or the will, have the greatest share.

With respect to all the various actions, whether voluntary, involuntary, or mixed, we are always to consider, that their performance will be as much influenced by the actual state and disposition of the corporeal frame, as by the actual state and disposition of the soul, which is so closely and mysteriously connected with the bodily organs; for the three faculties of desiring, knowing, and moving, which are the sources of all the various animal actions, are as liable to be affected by things which are applied to the body, as by the influence of the mind.

To give one very familiar instance with respect to the faculty of desiring, let a person who is extremely hungry, but not habituated to the use of tobacco, put a leaf of this plant into his mouth, and in a few minutes he will find his appetite cease; and instead of desire for food, he will be affected with loathing, or perhaps vomiting.

This change in the appetite must arise from changes made in the corporeal frame, though it may be impossible to specify what these are. Again, let us suppose this hungry person not to have meddled with tobacco, but that just as he is about to sit down to dinner he is informed of the death of some dear and intimate friend; then instantly the appetite of hunger will forsake him, and he will think no more of eating until the tumult raised in his mind by such unexpected news shall subside.

Here then, the change with respect to appetite must arise from changes wrought in the mind, and transferred from it to the body.

But such is the power of habit or custom, and we know it from daily observation, that if persons persist in the use of tobacco, however nauseous it may be at first, yet, in a little while, they cease to be sensible of any change or disturbance; and we may also safely affirm,

affirm, that if it were possible every day should bring us the account of some distressing misfortune, or of some joyful event; we should in no very long space of time cease to feel any sensible emotion from either.

Habit renders us insensible of the actions we perform, and in time makes even those which are deemed voluntary, cease to be under controul of the will.

And this seems to be the principal reason why the actions of the heart and organs of respiration, while carried on with freedom and equability, are performed without our being conscious that such motions are going on.

The heart having been in motion from the very beginning of life, the action of this muscle becomes absolutely spontaneous, and leaves the will no power to stop or controul it: but the muscles subservient to respiration are some of them concerned in actions that are purely voluntary, and accustomed to obey the will; therefore, this action is, in some degree, liable to be controuled, though it is not in our power thus intirely to stop it, because of the extreme anguish which such interruption would occasion; for it is the property of that sentient and intelligent principle, which is joined to the corporeal frame, to feel distress, when any of the important motions are disordered or suspended.

Here then, we may observe the general sources of disease; and here we shall conclude our summary view of the animal œconomy, as carried on during the state of perfect health, which consists in being able to exercise fully, and without any degree of painful or uneasy sensation, all those powers of mind and body which are suited to the various circumstances of age, sex, and constitution. The opposite state is disease.

A
METHODOICAL INTRODUCTION
TO THE
THEORY of PHYSIC.

BOOK II.

ANALYSIS OF DISEASES.

CHAP. I.

General View of the Symptoms or Component Parts of Diseases.

HAVING shewn what it is that constitutes health, we now proceed to the pathology, as being that part of physic which treats of the morbid state in general, without descending to consider particular diseases.

If we attend to the nature of diseases, we shall find that they always consist of different kinds of distress or inability; for let us examine any person who is ill, it matters not of what distemper, and we shall constantly perceive that there is more than one complaint.

These complaints, when regarded singly, are all termed in the medical language Symptoms.

Hence we may understand what the authors mean, when they tell us that a disease is an assemblage or combination of symptoms.

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Symptoms

Symptoms are either general or local; they are peculiar to one sex, or to the state of infancy.

General symptoms are those inabilities and different species of painful or uneasy sensation, which affect the whole frame, and disturb the general regularity of the animal œconomy.

Local symptoms are those disorders which being restrained to particular organs, or parts of the body, do not interrupt or disturb the general œconomy.

Sexual symptoms are those distressing sensations, inabilities, and local disorders, which depend on the different formation of the organs distinctive of the sexes, and on the particular circumstances peculiarly annexed to each.

Infantile symptoms are those complaints and morbid appearances which are only met with, or observed in infants newly born, and within the period of dentition.

As the analytic method, which begins by resolving things, as far as may be, into their constituent parts, and then examining these in the separate state, is the way that has led to the most important discoveries which have been made in natural philosophy, let us adopt it, in order, if possible, to find out the true nature of diseases; and since symptoms are the component parts of diseases, let us first attempt to investigate them.

We shall readily ascertain the number of general symptoms, by first observing the several conditions which result from the general regularity of the animal œconomy, and then by considering the deviations from, or the opposites to these conditions.

The animal œconomy in general is carried on with regularity.

1. When the degree of animal heat is such, that it neither falls below nor rises above what gives a pleasant and agreeable sensation.

2. When

2. When the appetites relish their natural objects, and return in moderation at the proper seasons and intervals.

3. When there is no pain or soreness.

4. No itching.

5. When the sleep is natural and refreshing.

6. When there is no sense of straitness or oppression about the præcordia.

7. When the breathing is perfectly free.

8. When the voluntary motions depending on the exertion of the muscles can be performed agreeably to the will, with ease, readiness, and due degrees of strength.

9. When the feeling is natural, and the several organs of external sense receive, and transmit the different impressions to which they are peculiarly adapted, in the proper and moderate degree.

10. And, lastly, when the organs of internal sense are all in that natural state, which enables the mind to perceive clearly, and judge truly concerning the impressions which are made, or of the ideas which arise in consequence of the powers of memory and imagination.

Now let us examine what are the opposites to these ten conditions.

In the first place, the extremes with respect to a moderate and pleasant degree of animal heat, must be the uneasy sensation of excessive heat, or of excessive cold; hence arise two species of simple morbid affection, constituting two general symptoms.

The deviations from or the opposites to a natural appetite, must be a disrelish or loathing of the proper objects; whence arises a third general symptom, consisting in that uneasy sensation, which we usually express by the word sickness; or when the appetites become so unnaturally keen, as to create distress from excess of desire; whence

come violent thirst, and what the writers term *fames canina*, *satyriasis*, and *furor uterinus*: the three last mentioned complaints occur so very rarely, that they shall not be noticed at present; but distressing thirst is so frequently met with in diseases, that it shall be considered as the fourth of the general symptoms.

Pain and itching are opposites to the third and fourth conditions; and,

Their natural attendant, or consequence, restlessness or inability to sleep; and an extraordinary or unnatural and morbid propensity to sleep, are opposites to the fifth condition of general health.

An oppression and sense of straitness about the *præcordia*, termed anxiety by the writers, is the opposite to the sixth; and,

Difficulty of breathing is so to the seventh condition.

Weakness and relaxation of the muscular fibres, so as not to leave strength sufficient properly to support the body, and obey the dictates of the will; and its opposite, spasm or convulsion, when the muscles act contrary to the will, and sometimes exert unusual degrees of strength; these are deviations from, and opposites to the eighth condition; and, being added to the foregoing, make an eleventh and a twelfth general symptom.

Insensibility, with respect to the application or impression of external objects; and its opposite affection, a too high degree of sensibility, or unnatural proneness to irritation, constitute a thirteenth and a fourteenth general symptom, as being deviations from, and opposites to the ninth condition, which requires the organs of external sense to be susceptible of feeling, and capable of transmitting the impressions peculiar to them in the natural and moderate degree.

To which we must add, as the fifteenth and last, that general disturbance and disorder of the internal senses, called delirium, when the faculties of the mind cannot be properly exercised, but the several

powers

powers of memory, imagination and judgment, are weakened, confused and perverted.

Each of these fifteen species of morbid distress or affection, may be considered in the abstract as capable of existing, one independent of another; but whenever they do exist, they affect the whole frame, and disturb the general regularity of the animal œconomy; hence we have called them general symptoms, in order to distinguish them from those affections which are only local, and spring from the disorder of particular parts of the body. For if not one of these general symptoms be present in any particular person, that person must be allowed to be in health, as to the animal œconomy in general, though he may, notwithstanding, labour under some disorder of a particular organ. As for example, the lungs may be disturbed in their action by a cough, raised by the irritation of somewhat either about the larynx, or lower down in the trachea; or the little ducts and orifices, which are naturally destined to ouze out lymph and mucus, to lubricate the intestines, may be irritated so as to pour out an unusual quantity of these humours, and thus give rise to a looseness: but this cough, unless it be accompanied with other symptoms, such as pain, difficulty of breathing, restlessness, or loss of appetite, will not deserve the name of disease, and the person affected will scarcely apply for medical assistance; neither would the slight diarrhœa or looseness be reckoned a disease, unless it were attended with some one or more of the fifteen general symptoms, since we know for certain that so long as every one of these fifteen complaints can be kept off, so long will the body remain free from any important suffering.

As certain symptoms, both general and local, are usually observed to combine, and accompany each other (because they flow from similar changes in the state of the animal motions); these assemblages are distinguished by different names, such as fever, pleurisy, dysentery, and so forth, thus making up the intire catalogue of diseases.

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The knowing how to distinguish these combinations, and the sources from whence they spring, is the true foundation of rational practice; because, in our attempts to relieve sick people, we seldom regard particular symptoms, or any single species of the distress, but rather, having found out the source of the whole assemblage, strike at the root, and endeavour to rectify what is amiss with respect to the animal motions.

But we shall never attain this knowledge, unless we first consider the nature and consequences of each of the general symptoms apart, and find out what it is that gives rise to them; for having considered these singly, and investigated their causes, then, by comparing things afterwards, we shall readily see how many of these symptoms spring from one source, and consequently come to understand how it happens that such and such are, as it were, inseparable, or constantly run together in the same assemblage.

C H A P. II.

How to distinguish the Causes of Diseases.

THAT part of pathology, which is employed in exploring the causes of diseases, is termed ætiology.

In explaining the ætiology, we should always be careful to distinguish accurately between those changes in the state of the corporeal frame, which at all times, and in all subjects, produce some one species of morbid affection, and those things which only have the power of creating disorder, when the concurrent disposition of body is present.

The practice of inoculating for the small-pox will here serve as an illustration. In people who are inoculated, there is a small quantity of purulent matter, which experience has shewn to be infectious,

uous, introduced through a little wound of the skin, so as to mix with the animal fluids: if the body be properly disposed, the consequence of this introduction will be, a certain number of symptoms and appearances, which being combined together, constitute a disease which we term the small-pox. First, there will be an oppression about the præcordia, accompanied with sickness, or perhaps vomiting, pain in the back, and an uneasy sensation of cold; in a few hours this cold will give place to an extraordinary heat, attended with thirst and restlessness. But these symptoms will only happen when the body is properly disposed to co-operate with the infectious matter; for if it be not so disposed, either from the person's having had the small-pox before, or from some other reason which is not within the reach of our investigation; then no change will ensue, but the health will remain in the same state as before inoculation.

Thus we see, that this infectious matter, which at first sight one might be apt to conclude was the immediate cause of the distress, is only a remote, contingent, or possible cause, that either may or may not produce those changes which constitute all the different symptoms, just as the body happens to be disposed, and that the immediate or actual causes of oppression, sickness, excessive cold, and so forth, are certain changes in the state of the corporeal frame, which necessarily produce disorder in regard to the motions of the animal fluids.

Our business then must be, to find out what these changes are, which are thus invariably productive of the different species of simple morbid affection.

It is easy to understand, that neither the changes in the state of the corporeal frame, which are held as the immediate or actual causes of diseases, nor those morbid dispositions of body which must concur with the remote or possible causes before any one general symptom

symptom can be produced, are things which come within the cognizance of external sense; for who can tell or describe what it is that disposes the body at one time to be infected with the matter of the small-pox, and at another time to resist this particular virus? Or who can discern those changes in the state of the corporeal frame which are always followed by the different symptoms lately mentioned? These are matters which we can only reason about, but which we must not pretend to demonstrate, or render incontrovertible, by evidence of the senses; and hence it is, that there always has, and always will be, a considerable variety of opinions among medical people with respect to the causes of diseases; and yet it is of the highest importance to the rational study of physic, to gain as clear ideas of these matters as may be, otherwise our practice must be merely empirical.

The first thing then that shall be attempted will be, to explain the nature, point out the consequences, and investigate the immediate causes of each of the fifteen general symptoms, which will lay a sure foundation for understanding the nature of diseases, which are only so many combinations of these general symptoms, variously blended with each other, and with local disorders, in different degrees and proportions.

We shall take them in the order they have been mentioned; and, as they are to be the foundation of our whole scheme of pathology, will first subjoin a table, giving a synoptical view of the fifteen general symptoms, placed in opposition to the ten conditions of health.

In

In the healthy state.	In the morbid state.
I. The degree of animal heat is moderate.	I. There is, either excessive heat, or,
II. The appetites relish their natural objects, and return in moderation at proper seasons and intervals.	II. The sensation of excessive cold.
III. No pain is felt.	III. Sicknefs.
IV. No itching.	IV. Distressing thirst.
V. The sleep is natural and refreshing.	V. Pain.
VI. There is no straitness or oppression about the præcordia.	VI. Itching.
VII. The breathing is free.	VII. Inability to sleep; or,
VIII. The voluntary motions are performed agreeably to the will, with ease, readiness, and proportionate degrees of strength.	VIII. Somnolency.
IX. The organs of external sense, receive and transmit their several different impressions in a proper and moderate degree; and,	IX. Oppression or straitness, termed anxiety.
X. The organs of internal sense enable the mind to perceive clearly, and judge truly of the impressions which are made, and of the ideas which arise from memory and imagination.	X. Difficulty of breathing.
	XI. Want of strength; or,
	XII. Spasm.
	XIII. Want of sensibility; or,
	XIV. Superfensation.
	XV. Delirium.

C H A P. III.

Particular Description of that State of the animal Motions on which the Conditions of perfect Health depend.

BEFORE we enter on our inquiry concerning the symptoms of diseases, it is necessary to explain and point out more particularly that state of the animal motions, on which the conditions of perfect health depend.

Health will be perfect so long as there is an equable moderate and free circulation and distribution of the several animal fluids throughout every part of the vascular and nervous systems.

For, if the general mass of blood, issuing from the heart, flows through all the various ramifications of arteries, in an uninterrupted easy stream; if the several secretory vessels perform their offices, and separate the various humours, while the remaining blood is returned by the veins from the circumference, in the same moderate tenour that it parted from the center; if the excretory vessels carry off their proper humours, deposite those in receptacles that ought to be so deposited, while such as are excrementitious are discharged; and if the two kinds of absorbents take up and convey the fluids proper to them, without stoppage or irregularity, then all will be well on the part of the vascular system.

And if the nerves be properly filled with their peculiar fluid, and this be distributed with freedom, moderation and equability, to every minute filament, then all will be well with respect to the nervous system.

Thus the canals being properly filled, and the nerves duly supplied, the corporeal organs in general will be kept in that state, form and disposition, which render them fit instruments for the sentient and intelligent

intelligent principle, which actuates the whole, and enables the body to perform and exercise, with ease, pleasure and proportional strength, all the various actions and functions.

If the moderate, equable, and free distribution and circulation throughout every part of both systems be what constitute the perfectly healthy state, then it follows, that whenever the motions of either nervous or vascular system shall become intense, remiss, or irregular, or shall be altogether suspended, then various degrees and kinds of distressing sensation and inability must ensue, and continue, so long as these deviations from the natural moderation, freedom and equability of the animal motions shall continue; but when these motions shall again be set free, and restored to order, then every painful and uneasy sensation will cease, and all the powers of mind and body resume their proper vigour.

The reader will observe, that in describing the state of the corporeal frame, which is absolutely necessary for maintaining the conditions of perfect health, no mention has yet been made of the cellular system.

The fact is, that all the general symptoms are immediately owing to morbid changes in the motions of the nervous and vascular systems: diseases, however, are frequently to be deduced from the cellular system, for the inert solids often impede or disturb the motions of the living, either when they acquire too great a degree of rigidity from the disproportionate access of solid particles, or when they have their cellular cavities too much clogged up, and filled with fluids, so as to compress and obliterate the adjoining vessels or nervous filaments; or when these cells are too much exhausted, so that they collapse, and their laminæ grow together; or, lastly, when sharp humours are generated or collected in the cellular spaces, that destroy and melt down the solid fibres and plates, and in the end irri-

tate the living solids, so as to give rise to all the variety of disorders to which these are liable, from the immediate application of stimuli.

Having premised thus much, we shall now proceed to our proposed analysis; inquire into the causes, and explain the nature and consequences of each of the general symptoms, beginning with that of excessive heat.

C H A P. IV.

Excess of Animal Heat considered as a general Symptom, or Species of simple morbid Affection.

SINCE the invention of the thermometer, we know that the natural standard of heat in the human body is about the 96th or 97th degree of Fahrenheit's scale; it is seldom however that we take the trouble, in common practice, of measuring the excesses of heat by this instrument, but for the most part trust to our own sense of feeling, or depend on the patient's description; for when sick persons are capable of describing truly how they are affected, we are always to form our judgment on their report; and even though we should perceive a degree of heat that exceeds the healthy standard, yet, if it be not accompanied with some other distressing or uneasy sensation, we are not to look on this excess as morbid; as for instance, a person may overheat himself by violent exercise, eating high-seasoned meats, or drinking vinous liquors; but if this increase of heat be not accompanied with some of the other general symptoms, such as pain, sickness, or loss of strength, it will in a short time return to the natural standard; whereas if we find the excess of heat attended by these or other general symptoms, then we are to look on it as morbid, and may expect that it will not suddenly subside, but rather gradually increase, and continue for such length of time as shall be determined by the particular circumstances of the case.

case. Such then is the nature of that excess of animal heat, which we are to regard as a species of morbid affection.

In some cases this morbid excess of heat requires to be distinguished: In the first place, we are to distinguish that which is attended with a remarkably strong, full, and rapid pulse, great dryness of the skin, violent thirst, and pain in different places; from that which is attended with much sickness and oppression, and accompanied with extreme weakness and dejection; the pulse at the same time being neither strong nor full; and when we touch the skin of the sick person, we shall be sensible of a certain degree of smarting, from the sharpness of what is exhaled: the former kind of heat is peculiar to fevers accompanied with inflammation, while the latter is only met with in the worst species of putrid fever.

There is a third distinction with respect to the heat which is peculiar to a certain genus of fever, which does not continue for days together without remission or interruption, as those just now mentioned; neither are its effects so speedily destructive of life; this is termed the hectic heat, which returns at intervals, and is most remarkably felt in the palms of the hands and soles of the feet, where the degree is even greater and more scorching while it lasts than in the putrid or inflammatory fever.

And, lastly, there is a fourth distinction to be made which respects a sudden and momentary flashing of heat, that is far from being so alarming as any of the other three; and which is peculiar to diseases, wherein there is not the least degree of fever, and where the symptoms are of that sort usually denominated nervous or hysterical.

Let us now proceed to assign the probable causes of this morbid excess of heat, which is observable in different diseases.

In general it may be laid down, that the immediate or actual cause of this symptom is intenseness of motion in the vascular system; for
let

let the original cause of animal heat be what it will, it is certain that an increase of velocity, with respect to the circulation, always creates an increase of internal heat.

Then as to the four distinctions that were made; in the first kind, to wit, the heat peculiar to inflammatory diseases, it is sufficiently obvious, from the state of the pulse, from the redness in such parts of the body as allow us to see the enlargement of the smaller blood vessels, and from the violent thirst and general dryness of the skin, that the immediate cause is an extraordinary degree of intenseness of motion, in the blood-vessels, driving on the blood with unusual violence and rapidity.

The second kind of morbid heat, which was distinguished as peculiar to fevers, wherein the blood is found to be in a putrefactive state, cannot be ascribed so much to an intenseness of the progressive, as to an excess of the intestine motion, because of the weak state of the pulse, which shews that the circulating force of the blood is not more, perhaps may be less, than in the healthy state; and there is a circumstance sometimes observable, which may authorize us to say, that the cause of this putrefactive heat is an increase or intenseness with respect to the intestine motion among the insensible particles of the blood, which is, that the heat continues for several hours after death.

As to the third kind of heat peculiar to hectic fevers, it should seem that there is an intenseness or increase with respect to both the progressive and intestine motion: and this we infer from considering the nature of these diseases. Hereafter we shall see, that hectic fevers depend on the repeated absorption of acrimonious matters, which being received into the circulation, not only irritate the heart and arterial system, but also seem to increase the intestine motion of the blood, in the same manner that we see mixtures in fermentation
are

are liable to have their intestine motion rendered more brisk by the addition of different substances.

In these three kinds of excessive heat, the inflammatory, the putrefactive, and the hectic, the increase of motion appears to be general throughout the whole system of sanguiferous canals; but in those momentary flashings, which are esteemed nervous or hysterical symptoms, the intenseness of motion must be confined to particular parts, and is not to be looked on as affecting the whole circulation; and this we infer from the pulse, which in these cases is not quicker nor stronger than usual.

As to the remote, or possible causes of the morbid excess of heat, or those various things that may increase the intestine motion among the insensible particles of the blood, or which may act as immediate stimuli to irritate the heart, and the vessels deriving from it; they are so numerous, and of such different natures, that they must be ranged under different heads, and treated of at some length in a future chapter.

Having thus pointed out the differences, and established the immediate causes, let us now see what consequences and changes will ensue from a morbid excess of heat; and first of that kind which is termed the inflammatory.

The first effect of the inflammatory heat will be an enlargement of the vessels; this appears evidently in such parts of the surface of the body as are spread over with numerous blood vessels, and covered with a tender cuticle, such as the cheeks and the eyes; hence redness and flushing of the face, brightness and tension of the eyes, which makes them seem to protrude, and look larger than usual; but if the irritation of the vascular system continues, and the heat goes on to increase, the texture of the blood will be daily impaired, until at length, from violent agitation, the constituent particles will deviate
6 from

from that particular combination, which renders the blood in the healthy state a mild, smooth, and tenacious fluid; and the oily and saline parts will run together in an undue proportion.

Dr. Langrish, in his *Modern Theory and Practice of Physic*, has related some experiments which explain this decomposition of the blood, in consequence of a continuance of intenseness of motion and augmented heat; for they shew that the oily and saline particles, which in the healthy state are so closely united with the rest as not to be separated without great difficulty, are now so far loosened, that they part from the other principles, and run together in great abundance: having distilled two separate portions of blood, drawn from people in inflammatory fevers, he found the quantities of volatile salt and oil, which came over into the receiver, to be very near double to what they were in the like portions of blood, drawn from persons in perfect health; and in like manner, when he analysed the urine, he found that as the fever went off, and the saline and oily particles were in good measure discharged by this outlet, the quantities of volatile salt and oil, which came over in the distillation, were about double the quantity found in urine made while the fever was going on, and while these irritating matters remained blended with the general mass of circulating fluids; the urine becoming more and more impregnated with salt and oil, in proportion to the abatement of the heat, and other distressing symptoms.

When the oily and saline particles are disunited from the other constituent parts, and thus run together, they keep up the irritation, and add to the increase of heat, which must go on still further to decompose and destroy the healthy and natural crasis of the blood.

The crasis of the blood being thus destroyed, and the diameters of the vessels preternaturally enlarged, gross particles will be forced into cavities and canals, which, in the healthy state, could only admit
the

the more subtle; hence the various secretions must be impeded and disturbed; and if the vessels in any particular organ happen to be weaker than they naturally ought to be, and make less resistance to the impulse of the fluids, an inflammatory swelling will take place in that part; and according to the use and importance of such organ, will give rise to different symptoms, and create different degrees of pain, distress, and danger.

That even though these inflammatory translations should not ensue in consequence of the irritation and intenseness of motion in the vascular system, yet if the offensive particles which keep up the disturbance be not separated from the blood, and allowed to pass off in some of the natural discharges, or do not escape into the cellular system among the inert solids, which are not susceptible of stimuli, the continued agitation will destroy the crasis of the blood, and render it unfit for sustaining life.

But it is to be observed, that though we often meet with cases, where we infer from the pulse, that the force and velocity of the fluids in circulation are double what they ought to be in the healthy state, yet it does not appear from the thermometer that the increase of heat keeps pace with the increase of circulating force; things being so ordered, it does not always follow, that the texture of the blood is so much injured by the increase of heat, as to render it unfit for the purposes of life; on the contrary, this symptom, though distressing for the time, and accompanied with others which are very alarming, frequently tends to a salutary conclusion, as it appears to be the immediate means of subduing or attenuating such acrid and offensive matters, as might otherwise destroy the texture of the vessels: but these offensive matters being thus subdued, attenuated and corrected by the augmented heat, become capable of being separated and thrown off from the general mass, so as to free the body from distress. And hence, as we shall see in the proper place, it is the

business of the physician on many occasions, particularly in eruptive fevers, so to regulate this morbid excess of heat, that it shall neither rise too high nor fall too low.

The consequences of excessive heat must be still more destructive in putrid fevers, where we suppose the intestine motion to be greatly increased, than in cases purely inflammatory, where it appears that there is only an increase of velocity in respect of the progressive motion: for in these putrid fevers the blood loses its viscosity, and becomes capable of transfusing through the pores in the coats of the arteries; whence ensue hemorrhages, and red or livid spots on the skin.

But in hectic fevers, where there are always some hours of remission, the heat, though excessive, and very distressing for the time it lasts, does not so immediately either destroy the crasis of the blood, nor melt down the solid fibres, as it does in the cases of continued inflammatory, or putrid fevers, where the heat is kept up, and goes on to increase, till it rises to the highest pitch that the blood is capable of receiving in the human body.

In the end, indeed, hectic heats generally do destroy the crasis and texture of both fluids and solids.

As to the fourth kind of heat, which was mentioned as peculiar to hysterical cases, the consequences are seldom either very distressing or immediately destructive, for being of no long continuance, nor diffused throughout the whole vascular system, none of these alterations in the crasis of the blood, or texture of the vessels, are found to ensue.

C H A P. V.

Sensation of excessive Cold, considered as a Species of Morbid Affection.

THE sensation of excessive cold, before it can be considered as a species of morbid affection, must always be accompanied with some of the other symptoms that were enumerated; those which most commonly concur, are oppression and weakness, but very often there is a considerable degree of nausea, or perhaps vomiting, attended with pain in the head, or in the small of the back, violent thirst, and shivering.

All fevers that invade suddenly, and many of those which come on by degrees, begin with this symptom; but as there is a kind of excessive heat, which is sometimes met with in diseases that are not febrile, so is there also a kind of excessive cold peculiar to nervous disorders, and not accompanied with any unusual oppression, sickness or nausea, the distinguishing attendants of that kind of excessive cold, which is observed to begin the attack of a fever; whereas a stupor, or general insensibility, is the symptom that most commonly accompanies the extreme coldness in cases merely nervous.

As there is no evident interruption nor remission with respect to the general motions of the vascular system (which we can always know by the pulse) in this kind of excessive cold that is peculiar to nervous diseases, we must look for its causes in the nerves particularly distributed to the skin; these are presumed to induce this particular sensation, in consequence of some changes in their state, which it would be a vain attempt to explain; but as to the causes of the other kind, peculiar to febrile diseases, there we may speak with somewhat less uncertainty, as the changes evidently affect the motions of the vascular system, and in some measure fall under the cognizance of the external senses.

For almost every one of the attendant circumstances and appearances serve to demonstrate that the actual or immediate cause of this uneasy sensation of excessive cold, which is the beginning-symptom in so many species of fever, is a stagnation or stoppage of the blood in the minute extremities of the arterial system; and not only a stoppage of these vessels, but also of the still more minute and finer tubes, which serve to strain and carry off the urine and perspirable matter. This we may be assured of, from the paleness and shrivelling of the skin over the whole body; from the general shrinking in, which is evident from rings becoming loose, that but a little while before exactly fitted the fingers; from the thirst, and from the drying up of issues or other running sores; from the livid colour of the nails, under which the blood plainly stagnates; from the small quantity of clear urine made at these times; and lastly, from the oppressive load at the center, on account of the stoppage which the fluids meet with in their passage through the vessels at the circumference. But here it will be asked, What is the immediate or actual cause of this stagnation, that is so extremely evident from all these circumstances just now mentioned?

There are two opinions in respect of this matter, which have been embraced by the chiefs of the medical schools: one party look on the fault to be in the fluids, which are alleged to be too viscid to pass with freedom through the extremities of the finest arteries, that are supposed to be conical tubes or canals, whose diameters lessen gradually as they recede from the center: the other party hold, that the defect is in the vessels which transmit the fluids, and they maintain that these vessels are endowed with a power of contracting or straitening their channels, so as to hinder the fluids from passing through. The former opinion was for a while the prevailing one, but now seems to be pretty much exploded; for the notion that the arteries are conical tubes, has been very satisfactorily shewn to be false, by observing

observing with a microscope the form of the capillary arteries in living animals; this instrument discovers these canals to be truly cylindrical; so that even supposing there were viscid particles in the fluids, they would not be detained on this account in the straitest part of the minute arteries. But besides this, when we observe the effects of certain passions of the mind, which produce instantaneously the uneasy sensation of excessive cold, together with oppression and quick breathing, and observe at the same time how the blood forsakes the lips and cheeks, and how the whole body shrinks in, we cannot help being convinced that these changes do not proceed from any increase of viscosity in the fluids, but manifestly ensue in consequence of a sudden constriction of the vessels at the circumference, denying a free passage to the blood, and driving it in upon the center. The like effects may also be observed to follow upon the retention of offensive matters in the stomach and intestines, or even by the seeing of nauseating things, or barely calling to mind the having once swallowed such disagreeable substances; hence we conclude, that the sudden constriction of the vessels, and not the lentor or viscosity of the blood, is the immediate cause of the symptom whose nature we now endeavour to explain.

As all animal motion whatever appears to proceed from the nerves, so we must necessarily refer this constriction of the minute vessels to some change in the nervous system, but wherein this change consists, it will be needless to attempt the investigation; we must therefore content ourselves to rest the matter here, and push our inquiry no further than the vascular system, wherein we evidently see there is a stagnation or stoppage, attended by the constriction of the extreme branches of the finer arteries and excretory tubes: this is termed a spasmodic constriction, and has often been denominated, simply, spasm: however, as this use of the word spasm is not perfectly agreeable to the meaning of the ancient writers, nor to the sense of the word,

word, as intended to be used in this work, it shall never be introduced but when we design it to mean that violent and involuntary contraction or exertion of the muscular fibres, which is the opposite symptom to weakness or relaxation.

Let us now inquire into the effects that must ensue in consequence of this spasmodic constriction.

If we suppose the constriction to be general throughout the whole circumference of the vascular system, it is obvious that instant death must be the consequence; and this actually happens, sometimes, from a violent and sudden fright, when the circulation is instantly stopped, and the fluids all thrown in upon the center, where the heart being oppressed by the load, is unable to perform its usual motions; sometimes, in places where the air is replete with pestilential vapours; and also in consequence of poisons that are exceedingly active, particularly that of the poisoned arrows which are in use among some of the Indian nations in South America. The French academicians, who went to Peru in the year 1739, to measure a degree of the earth's surface, brought home, among other curiosities, some of these poisoned arrows, with which they made experiments in presence of the academy, by wounding different animals. Death almost instantly followed the slightest puncture; and, on opening the animal afterwards, the auricles and ventricles of the heart, together with all the larger trunks adjoining, were found greatly distended with blood, and in some instances actually ruptured; which shewed that its death must have been occasioned by the sudden constriction of the vessels at the circumference, whence followed a stoppage of the circulation in these vessels, and consequently a repulsion of the general mass of blood *.

These, however, are extraordinary cases; for in the beginning of common fevers the spasmodic constriction is not to be supposed as

* See also Bancroft's Natural History of Guiana.

affecting the whole circumference of the arterial system; it is indeed sufficiently extended throughout the vessels belonging to the skin, to cause a stagnation in them, and thereby produce the sensation of excessive cold, together with paleness and shivering; for the same interruption which is capable of producing the cold and paleness, as it hinders the muscles from being supplied with blood sufficient to preserve their proper tone, must likewise often produce irregular contraction and relaxation of their fibres, which will become manifest by the shivering or tremor, termed by the writers rigor and horripilation.

Anxiety, or oppression about the præcordia, is also a necessary consequence of spasmodic constriction, because of the resistance made to the power of the heart.

As this oppressive load cannot long remain, consistent with life, the powers which sustain life (all comprehended in the word Nature) immediately begin to exert themselves: the heart being the most irritable of all the muscles in the body, is now stimulated by the application of such an unusual quantity of blood, and drives on the general mass of circulating fluids, with violence, rapidity, and irregularity, because the arterial system is more open and free (the vessels being less constricted) in some places than in others: the necessary effect of this intenseness of motion must be excessive heat, as before explained, accompanied with distressing thirst, and inability to sleep; to which will succeed pain, delirium, and other severe symptoms, if things do not take a favourable turn; for should the intenseness of motion keep up, while the constriction continues to affect the vessels, and render the circulation irregular, the heat will increase, and produce all those destructive changes, with respect to the crasis of the blood, and the texture of the vessels, which have been already explained in the preceding chapter.

C H A P. VI.

Of Sicknefs, or Nausea, its Causes and Consequences.

BY the word Sicknefs we always mean something more than fimple los of appetite, or want of desire, and intend by it a difrelish, or loathing of those things which in the time of perfect health are highly pleasing, and agreeable to nature.

We shall often find by the pulse, while persons complain of sicknefs, that there is evident disorder in the motions of the vascular system, as is the case in all febrile diseases, wherein this is an essential symptom; but sicknefs must always be referred to disturbance and irregularity in the nervous system; for mere intenseness of motion, respecting the circulation of the grosser fluids, will not, of itself, create this uneasy sensation.

If the stomach be kept distended by flatus, or by any enlarged secretion of mucous or watery humours; or if these fluids be not sufficiently supplied to keep up the due degree of moisture for enabling the nerves to exercise their proper functions, in such cases the natural sensation of hunger will not be felt, but on the contrary a sense of uneasiness, or load at the stomach, will create distress.

Sicknefs will also infallibly ensue upon the retention of any thing putrid or rancid in the stomach, or from the accumulation of acrid or corrupt bile in the gall bladder, or flexure of the duodenum, which is a circumstance frequently attendant on fevers.

In these diseases, it is not unreasonable to suppose, from the dryness of the inside of the mouth, that the spasmodic constriction extends to the stomach, and hinders the nerves there from being properly moistened, whence they become incapable of exercising their function, in the same way that we see those of the tongue are rendered

rendered incapable of receiving and transmitting the impressions of the different substances taken into the mouth, so long as the natural moisture is wanting. Hence it is a favourable sign, when we observe people in fevers express a desire to take solid food of any sort, no matter how different from that which they commonly use, because it shews that the spasmodic constriction is yielding, and allows the natural supply of lymph to ouze out, and moisten the nerves of the stomach, so as to restore them to their natural powers.

If sickness should continue for any considerable length of time, a wasting of the flesh must necessarily ensue, from the want of proper supplies of nutritious matter, to replace the loss which is sustained from the perpetual action of the fluids upon the coats of the vessels, abrading and washing away part of their substance: hence the greater the degrees of intenseness in the motions of the vascular system, which accompanies sickness, the more sudden and apparent will be the wasting of the flesh.

Weakness, or loss of strength, must also be another necessary consequence of want of appetite; because the greater the loss of solid particles, the greater of course must be the want of firmness in the muscular fibres.

C H A P. VII.

Of Thirst, considered as a general Symptom or Species of Morbid Affection.

DISTRESSING thirst is the fourth species of simple morbid affection that was mentioned: this, like all the rest, must always be joined to some other symptom before it can be considered as part of a disease; those which most usually accompany it are either excessive heat or excessive cold; oppression, weakness, loss of appetite, and inability to sleep.

The immediate cause of this symptom is a stoppage of the pores, which ought to supply lymph and mucus, in order to lubricate and moisten the tongue, the whole inside of the mouth, fauces, and œsophagus.

This stoppage may be occasioned either by a spasmodic constriction, straitening the little excretory ducts and pores, which open from the mucous folliculi; or it may arise from viscid matter clogging and choking up the same.

Spasmodic constriction appears evidently to be the cause of violent thirst in the cold fit, or beginning of fevers, because we may observe that fear, grief, or anxiety of mind, which always produce different degrees of spasmodic constriction, constantly give rise to different degrees of thirst. But when thirst is the attendant of excessive heat, then it appears, that, beside the straitening of the pores in consequence of spasmodic constriction, the finer part of the mucus, which ouzes forth to lubricate the parts just now mentioned, are exhaled by the excess of heat, and leave the more viscid part, which hardens into floughs that cover the tongue, and hinder the natural discharge of lymphatic vapour.

We see then that thirst arises from a dryness of the tongue, and inside of the mouth, fauces, and œsophagus: but in some cases, the constriction of the pores in these parts is not accompanied with that more general spasmodic constriction, which is the source of fevers, and which is always attended with oppression, sickness, and loss of strength; and in these cases the thirst, which is often exceedingly troublesome, is held to be a purely nervous symptom.

There are other diseases also void of fever, wherein thirst is very distressing, and where it appears to arise from the watery part of the blood being diverted to other outlets, particularly in the disease called Diabetes, wherein the urinary discharge is much more than it naturally
ought

ought to be. In fluxes also of the belly, in cases of profuse sweating, and in dropfies, where the watery part of the blood separates from the other constituent parts, and falls aside, either into the cellular system at large, or into some of the greater cavities.

As thirst is one of the most uneasy sensations, it must in general prevent sleep; and hence one reason for that restlessness, which is peculiarly attendant on fevers: a dryness of the mouth also must impair the power of the organ of taste, and by hardening the floughs on the tongue, and about the gums, must give a disagreeable or maukish flavour to every sort of meat or drink; and hence one cause of that distaste which people in fevers have to almost every thing but such as are of a subacid nature, which are peculiarly adapted to wash off these offensive floughs, and by their gentle stimulus provoke the secretion of lymphatic vapour from the pores of the parts affected.

As the immediate or actual cause of thirst in fevers lies in the spasmodic constriction, which also keeps up the rest of the symptoms, it naturally follows that it must be a favourable appearance, when we observe the tongue or mouth to grow moist, and the thirst grow less distressing; as these changes evidently shew that the constriction is giving way, and that the circulation is beginning to prove equable and free.

C H A P. VIII.

Of Pain, its actual or immediate Cause, and necessary Consequences.

IT is observable, that when the living fibres are put into a state of unusual tension, whether it be from an over-distension of the vessels, or from any external cause, then they become susceptible of the highest degrees of pain: hence it is, that many parts of the body, which, in the natural and healthy state, have but little sensibility,

lity, come to suffer high degrees of pain when the vessels are affected by an inflammation, and are over-distended by an unusual quantity of impacted fluids; and hence it is also, that in those parts of the body where the blood-vessels and nervous filaments run along, or mix with the substance of bones, cartilages, ligaments, tendons, or thick membranes, there are always found the most severe degrees of pain, because the living fibres in these parts are liable to greater degrees of tension than they are in the fleshy or glandular parts, where they are loosely connected by the yielding plates and fibres of the tela cellulosa.

It is unnecessary to distinguish the different kinds of pain; but it is of some consequence to inquire into the immediate causes of this symptom, which is so general, and at the same time so distressing; for not to mention fevers, wherein pain is so often one of the symptoms, there are many other diseases wherein it is never absent, and forms their distinguishing character.

Some writers have taught that pain always arises from an overstraining of the nervous filaments; others again have imagined that these are curled up or crisped, in the way that we may observe the fleshy fibres of animals to curl up, when any thing acrid is applied to them: however, the appearances in living animals, which have been subjected to experiments, do not favour this last mentioned hypothesis; for it is found, that the nerves have not this power of contracting or crisping, when they are touched either with a sharp-pointed instrument, or with substances of an acrid nature.

The nerves are undoubtedly the subjects of pain, and yet the chords themselves do not apparently shew the least disorder when touched by any of the things just now mentioned: as to the other hypothesis, which supposes pain to arise from a distraction of the nervous filaments, it seems plausible, until we call to mind that a ligature on any nervous chord immediately renders the animal incapable

pable of feeling the pain, which otherwise would be severely felt, from cutting, corroding, or tearing the parts which are supplied by this chord: hence we must infer, that pain is to be immediately ascribed to some change in the state of a fluid, and not to any distraction, tension, or crisping up of solid filaments.

As it is impossible to describe or determine the peculiar mode of receiving and transmitting, through the medium of the nerves, the ordinary impressions of external objects, which give no painful or uneasy sensation, so is it equally hard to find out those changes in the state of the nervous system, which give rise to the sense of pain: only as we have presumed that all the different sensations arise in consequence of certain and determinate degrees of vibration in the elastic and subtile fluid, with which the medullary substance of the nerves is imbued, it cannot be accounted either absurd or unreasonable to say, that pain, which is an excess of sensation, is owing to an excess of the vibratory motion. Besides, as some proof of this conjecture, it is observable, that until the medullary part of the nerve comes to be disturbed or touched, animals do not shew that they feel any remarkable degree of pain; for while the membranous sheath, which defends this medulla, remains entire, a nervous chord may be touched with acrid spirits, or with a sharp-pointed instrument, and yet no pain ensue; but in the instant these things get through the membranous sheath, and come to touch the soft medullary part that is inclosed, then the sensation of pain is felt, and conveyed to the sensorium as quick as lightning, provided the communication between the brain and the part which is injured be not interrupted by the means of ligature or pressure on the particular nervous chord, which is subjected to the experiment.

Pain, thus arising from an excess of the vibratory motion, is sometimes felt when the offending matter is applied at a distance from the place where the pain is said to be seated; as for instance,
a pain

a pain in the head is often occasioned by acrid matters pent up in the stomach.

The necessary consequence of pain must be a proportionable restlessness; for, as the mind studiously endeavours to get rid of the uneasy sensation, it labours to obtain relief by tossing, and frequent change of posture: hence sleep is banished; the thoughts are disturbed; and if the pain continues to increase in violence, a variety of extravagant and irregular motions and actions will ensue: thus the motions of the vascular system in general will be raised above the healthy rate, creating an excess of heat and violent thirst: and very often, if the pain was raised at first by the application of any thing acrid, or if it proceeded from some external injury, there will then be an extraordinary flow of blood and humours to the vessels in that particular place, which will either run themselves off in a discharge, or distend the canals and cellular substance, and thus produce an inflammatory swelling.

C H A P. IX.

Itching, considered as a Species of Morbid Affection.

ITCHING, when raised to any considerable degree, is as difficult to endure as pain, to which it seems nearly allied, and is presumed to arise from some particular change in the vibratory motion of the nerves bestowed on the skin.

It is observable, that this uneasy sensation, like that of pain, may be communicated to parts at a distance, by what is termed sympathy: thus, when worms irritate the sensible fibres in the coats of the intestines, the disturbance is often communicated to the membrane which lines the nose, and excites an itching there; and a stone in the urinary bladder frequently produces an itching at the extremity of the penis.

Beside

Beside the common external itching which appears to consist in some disorder of the nerves of the skin, there is also an internal itching, which is so generally diffused, that the patient cannot tell where to refer it: in common language, this symptom is termed the fidgets, and is a most uneasy sensation; it is sometimes met with in hysterical cases, and occasions incessant tossing and restlessness.

External itching, beside being peculiar to that species of cutaneous foulness, called the itch, is sometimes a very distressing symptom in the jaundice, and in some species of eruptive fever.

Itching, like pain and thirst, must necessarily disturb sleep; and if it continues violent, may be followed by delirium or spasm.

C H A P. X.

Restlessness, or Inability to Sleep, considered as a Species of Morbid Affection.

THE continued action of the mind and body during the time that we are awake, occasions an evident waste of some subtle matter, on which it appears that the strength and vigour of all the several faculties depend. This subtle matter is presumed to be the fluid of the nerves.

Sleep is therefore necessary for recruiting the strength of both mind and body; and hence it is not unreasonable to believe, that, during the time of sleep, the distribution of the subtle fluid is, in some measure, suspended throughout every part of the nervous system, except what supplies the organs, whose motions are absolutely necessary for carrying on the business of life, namely, the heart and lungs, with the muscles subservient to their action.

How it is brought about, that the movement of the nervous fluid should be thus restrained, and that it should be withheld from the
organs

organs of sense and instruments of voluntary motion, and yet be distributed to the vital organs just now mentioned, is a matter beyond the power of physiologists to explain; but that there is some such alteration, and that the mode of distribution is different in the time of sleep, from what it is while we are awake, seems not unreasonable to believe.

If then the mechanical cause of sleep in the natural and healthy state be a remissness with regard to the supply of nervous fluid to the organs of sense, both internal and external, and to the muscles, except the heart, and those concerned in respiration, it will follow that the opposite state, which is considered as a species of morbid affection, must have for its immediate cause an intenseness of motion, in respect to the general supply or distribution of the same subtile enlivening fluid.

The possible or remote causes that may occasionally give rise to this intenseness of motion are various; some of them depending on affections of the mind, such as grief, anger, and disappointment; others consisting in disorders of the vascular system, when there is an intenseness of motion there, which occasions heat and thirst; for this increased force, so long as the vessels of the brain keep open and free, never fails to produce that increase of motion in regard to the fluid of the nerves, which is presumed to be the actual cause of inability to sleep.

The consequences of this symptom, if it continues obstinate, must be very injurious and destructive; for supplies of food are not alone sufficient to repair the waste and recruit the strength of the body, unless they be assisted by the natural returns of sleep; since it seems to be during these intervals of repose from muscular motion, and the general exercise of the senses, that the nutritious particles are chiefly applied and fixed; but in febrile diseases, wherein the usual and natural supplies of solid food are also wanting, we may easily conceive

ceive how much the symptom we are now treating of must contribute to the general waste of flesh and strength.

In fevers, restlessness is one of the symptoms almost constantly present at the commencement; as the disease draws to a period, it generally changes to the opposite state, of stupidity or perpetual dozing.

But there is an order of diseases void of fever, wherein restlessness forms a principal share of the distress; however, as there is no unusual intenseness of motion at the same time in the vascular system, the want of sleep, which in these diseases is sometimes observed to continue for whole weeks in succession, is not so immediately destructive of bodily strength as it is in fevers, because the patients do not lose the relish for food, but on the contrary, for the most part, have appetites which exceed the natural and healthy rate.

C H A P. XI.

Of Somnolency, or an unnatural Propensity to Sleep.

THE opposite symptom to restlessness, and eighth which was enumerated, is somnolency, or a morbid propensity to sleep.

This symptom, when in a high degree, may well be accounted dangerous, since it gives reason to infer that the nerves are not sufficiently supplied with their enlivening fluid, either from a deficiency of this subtle matter in the general mass, or from somewhat compressing the nerves, so as to hinder the free distribution.

The remote or possible causes of somnolency are various, such as excessive discharges of blood, extreme cold, accumulation of watery fluid in the ventricles, and cellular interstices of the brain, or an over-distension of the vessels in the same part; extravasated blood within the cranium, depression, or fracture of the same, forcing it

in upon the brain, so as to compress the medullary part, and hinder the enlivening fluid to be transmitted from its source to the several organs of sense and instruments of voluntary motion.

Hence we may readily understand how this symptom may be a consequence of its opposite; for as an increased velocity of circulation through the vascular part of the brain gives rise to an increase of motion in the nervous system, and thus prevents sleep; so, when these vessels, from the augmented impulse of the blood, come to be overloaded and distended, they become then incapable of supplying the secretion which ought to be carried on in the brain, and moreover compress the nerves at their origin: and hence it is that an unnatural propensity to sleep is a symptom which we may always expect in those fevers, wherein there have preceded high degrees of restlessness and delirium.

Toward the close of fevers we frequently meet with a mixture of sleeping, and of sudden starting, which is termed *coma vigil*, and is presumed to be owing to the rapid and irregular circulation through the vascular part of the brain, some parts being free, while others are over-distended, so as to compress the nerves at their origin.

C H A P. XII.

Of Anxiety, or Sense of Oppression about the Præcordia.

IT was laid down as the sixth condition of perfect health, that there should be no sense of straitness, or weight and oppression, about the præcordia; the opposite to this condition, and ninth of the general symptoms is, that distressing sensation of a load or straitness, which is termed by the medical writers *Anxiety*.

This complaint is always accompanied with remarkable timidity and dejection of spirit; for, as it is the nature of pain to impress the mind with an idea of present injury, so anxiety excites the notion

of some impending evil, and hence often proves more intolerable than acute pain.

We must distinguish the cases wherein there is no apparent interruption or disorder in the vascular system, from those wherein there is an evident obstacle to the free passage of the circulating fluids through the extremities of the finer arteries: the pulse, as will be explained hereafter, enables us to make this distinction.

The first species of anxiety is a symptom peculiar to maniacal and hysterical diseases: the second is essential to fevers, and continues to distress the sick person more or less throughout the whole course of the disease; for, until the spasmodic constriction, which straitens the vessels, and hinders the free and equable circulation, shall give way, the sense of weight and oppression at the center will necessarily remain.

That species of anxiety which was first mentioned, as unattended with febrile symptoms, must arise from some disorder which is solely confined to the nervous system, but what the precise nature of that disorder is, must remain undecided, until we know more of the nerves than we do at present.

The immediate causes of the other species, as hath been already mentioned, are certain obstacles to the free passage of the blood; these obstacles arise from various sources.

In the first place, the passions of fear, grief, revenge, and disappointment, give rise to certain degrees of spasmodic constriction, and as constantly produce proportional degrees of oppression about the præcordia.

The morbid matters, generally termed miasmata, which are found occasionally to produce different kinds of fever, particularly those distinguished by eruptions, are remarkable for being productive of extraordinary degrees of spasmodic constriction, and of course are always accompanied with this distressing and uneasy sensation; for,

until the blood is freed from the irritating and offensive particles, and that these are either discharged from the body, or thrown out of the circulation, and lodged among the inert solids, in the cellular part of the skin, we may constantly remark a frequent sighing, and incessant complaining of oppression about the præcordia.

An over-fulness in regard to the general mass of fluids, and a retention of any of the natural discharges, always produce certain degrees of oppression; because the weight of blood to be put in motion is not rightly proportioned to the force of the heart; in like manner, when the power of the heart is any way impaired, from whatever cause, there is always a sense of weight at the center; which also must necessarily ensue, when the passage through the vessels of the lungs, or of the abdominal viscera, comes to suffer any considerable degree of interruption.

If the obstacles to the free passage of the blood be such as cannot readily be removed, which may be inferred from the heavy complaints of oppression and straitness, accompanied with an exceedingly quick, and very weak, pulse, we may then look on things as in a very dangerous situation, since these appearances plainly shew the load of blood accumulated in and about the center to be more than the heart is able to shake off, and consequently that death must be very near at hand: for in proportion as we observe the pulse to want strength and fulness, so shall we estimate the degrees of real danger.

But in cases where the anxiety arises from disorder which is merely nervous, the complaints and apparent sufferings shall often be very great, and yet there shall be no immediate danger of life; because the motions of the vascular system are undisturbed, and the circulation goes on with its usual freedom.

C H A P. XIII.

Of Difficulty of Breathing, its Causes and Consequences.

THE breathing may be rendered difficult either from changes in the state of the atmospheric air, by a straitening or obstruction of the passages through which the air must pass into the lungs, or from different disorders which affect the lungs themselves, and render them incapable of receiving and expelling the air, and of allowing the blood to circulate freely through them.

The air, if too much rarefied, will not have sufficient force to distend the pulmonary vesicles, neither will it inflate them sufficiently, if it be too much heated; while, on the other hand, if it be too dense it may over-distend, or if too cold it may occasion some degree of constriction in the bronchia. Acrid steams or vapours, such as those of sulphur, spirit of nitre, salt of amber, quicklime, &c. when drawn in with the air, appear to act as stimulants, and occasion a spasmodic contraction of the air vessels; mephitic vapours, or fixed air restored to a state of elasticity, when received into the lungs, causes instant death, but in what particular manner, has not hitherto been explained; possibly by inducing a paralytic relaxation of the motory fibres. Air that is too dry, or which is filled with subtile dust, proportionally distresses the breathing; and air that is too full of humid vapours will also cause difficult breathing, because it is not fitted to carry off the perspirable matter from the lungs so quickly as it ought to be exhaled.

The different parts about the fauces may be so swelled, and the membranes which line them so thickened, or so covered over with a mucous or purulent exudation, that the aperture of the glottis, and the passages leading to it, may be straitened, or altogether closed up;

which aperture is also liable to be shut up by a spasmodic contraction of some of the muscles belonging to the larynx.

With respect to the lungs themselves, their action may be impeded from a variety of sources; the thorax may be so shaped as to render the breathing habitually difficult; the lungs may be pressed upon by tumours in the parts adjoining, or by extraordinary quantities of fat accumulated in the chest, especially about the larger blood-vessels; the membrane which lines the bronchia may be thickened, in like manner as we often observe that which lines the nose and fauces to be thickened in consequence of obstructed perspiration. The mucus, which is destined to lubricate the bronchia, may be secreted in too large quantities, or it may be deficient; blood may ouze into the air-vessels from the pores or extremities of the bronchial or pulmonary arteries.

Mucous, watery, or purulent matter, may accumulate in the cellular substance of the lungs, so as to press on the air-vessels, and hinder them from being inflated; and on the blood-vessels, preventing them from transmitting their contents with freedom; earthy concretions, or scirrhous tubercles, are often formed in the lymphatic glands dispersed through the lungs, and compress both the air and the blood-vessels.

The blood-vessels are liable to over-distension from too great a quantity of blood, derived into them, as is the case in inflammations; or when the general mass is returned from the circumference of the body to the center faster than the lungs can receive and transmit it, as always happens after violent exercise, or in the height of a fever, when the blood is carried through the vessels with increased rapidity.

Severe pain affecting the different muscles, which are moved during respiration, necessarily render the breathing proportionally difficult; as will also spasmodic affections of the same, especially the
diaphragm,

diaphragm, which is sometimes stimulated by flatus in the stomach and intestines, or by acrid matters pent up there. The bronchia themselves are also liable to spasmodic contraction from internal causes, which often are not within the reach of investigation. The lungs may be compressed, and the freedom of their motions restrained, by collections of water, purulent matter, or blood in the cavity of the thorax; by swellings of the abdomen from dropical collections; from the enlargement of the different viscera, or from the bulk of a foetus.

There is an order of diseases wherein difficulty of breathing forms the predominant and distinguishing symptom; it is also a very frequent and an alarming symptom in fevers, owing partly to the spasmodic constriction, and partly to the general increase of velocity in the vascular system, which brings the blood faster to the lungs than it can find a free passage through them.

When the lungs become the seat of an inflammation, then difficulty of breathing, accompanied with pain and coughing, makes up the greatest share of the disease; difficulty of breathing is often a symptom in hysterical diseases, and in these cases usually proceeds from flatus, or other offensive matters pent up in the alimentary canal.

If this symptom should rise to the highest degree, and not speedily give way, suffocation and death must necessarily ensue, for there is no such thing as living without some freedom of circulation through the lungs. It is to be observed, however, that one lobe is sufficient to carry on life for a considerable time, provided the passages for air and blood be tolerably free. The slighter degrees of difficulty of breathing give proportional degrees of distress, and must always disturb sleep at least, if not give rise to some other symptom.

C H A P. XIV.

Weakness, considered as a Species of Morbid Affection.

WEAKNESS, or want of strength, is that state of the muscles in general, when they become incapable of sustaining the weight of the body with ease, and properly performing such actions as are dictated by the will.

There is no complaint so general as weakness, since in almost every disease we may observe a deficiency of bodily strength; but in fevers it is a constant and essential symptom; for if ever we observe a degree of strength exerted in fevers, either equal or superior to what is natural, and proportional to the different circumstances of age, sex, and constitution, we shall always find these exertions to be but transitory, and of short duration.

Some pathologists pretend to account for this weakness which is essential to fevers, by saying that the soul, which is always careful and solicitous for the preservation of the body, foreseeing that there will be a want of strength to overcome and expel the morbid matter, which gives rise to the fever, suspends the distribution of nervous fluid to all the instruments of voluntary motion, in great measure, while it plentifully supplies the heart, in order to enable this muscle to exert unusual degrees of force, so that it may remove those obstacles to the freedom and equability of circulation, which are raised by the spasmodic constriction. This, however, is but a chimerical sort of an hypothesis, and will by no means satisfy those who are attached to the mechanical philosophy; and yet it must be confessed, that even these mechanical reasoners are much at a loss how to explain the matter, or to say whence it is that animals derive their strength.

The sources of strength are to be sought for in the nervous system, and we presume that it depends on the full, regular, and
constant

constant supply of subtile matter, which is distributed throughout the muscular fibres: and this presumption is founded on the experiments of dividing, tying, or compressing a nervous chord, which constantly deprives the muscles supplied by that nerve of all their powers of strength and motion.

The actual causes therefore of weakness are said to be a deficiency, a suspension, or a remissness with respect to the distribution, or perhaps vibration of the nervous fluid, which ought to be supplied to the filaments bestowed particularly on the muscles.

The possible causes of this deficiency, suspension or remissness, may be various; some things appear to have a power of immediately spoiling, if we may so term it, the nervous fluid, depriving it of its elasticity (we may suppose), and rendering it less capable of vibration. These effects seem to follow whenever a putrefactive acrimony obtains in the constitution, whether it be generated spontaneously within the body, or be received from without in the way of infection.

Violent, or long continued exercise, either of mind or body, impair the muscular strength, on account (as it is presumed) of the dissipation of subtile enlivening fluid; profuse discharges of blood, or of secreted humours, also induce weakness, as taking off from the source which affords new supplies to the nervous system; and not only so, but as these discharges destroy the equilibrium in the vascular system, which subsists between the parts containing and the parts contained; for in proportion as the sides of the vessels compress and urge forward the fluids, in like proportion do the repellant particles contained in these fluids resist and distend the canals; hence when this balance between the contractile power of the vessels, and the expansive force of the fluids comes to be destroyed, whether it be produced by unusual and sudden discharges, allowing the vessels to collapse, or, by a new and sudden expansion of the fluids, creating an overdistension of the canals, proportional degrees of weakness always ensue.

Weakness constantly takes place in all muscular fibres that have been affected by spasm; and, as constantly, in those which have been the seat of severe pain, which may serve as another presumptive proof, that pain arises from an extraordinary agitation and vibration of the nervous fluid, whence necessarily succeed an extraordinary waste and dissipation.

Weakness must also follow whenever the cellular system comes to be preternaturally clogged and overloaded either with watery or oily fluids; or, as it sometimes, but rarely, happens, with elastic air, so as to compress the nervous filaments; hence the loss of strength in leucophlegmatic and corpulent habits, and in the disease called the emphysema.

Weakness is a predominant and distinguishing symptom in certain diseases termed palsies; and here it is, for the most part, accompanied with loss of feeling: but loss of feeling does not always, nor necessarily ensue upon loss of strength; for we often meet with cases wherein the weakness shall be extreme, and yet the powers of sensation suffer little or no diminution: this is remarkably so in hectic fevers; for here we shall often find the general powers of sense strong till within a few hours of death. But whenever we find in fevers that insensibility and weakness are united, and especially if the weakness was extreme from the first attack, we may then look on things as in the most dangerous situation.

In paralytic diseases the disorder does not affect the general circulation, nor disturb the motions of the vascular system; and hence it is, that these diseases often last for years, without destroying life; but in the weakness which is febrile, and which is occasioned by the disorder of both systems, unless freedom and equability in respect of the circulation and distribution throughout the whole be restored in due time, life cannot possibly subsist under such united interruption and disturbance.

C H A P. XV.

Of Spasm.

THE opposite symptom to weakness is spasm, when the muscular parts of the body are found to exert unusual and unnatural degrees of strength, and contract themselves in opposition to the power of the will: at some times these violent and involuntary actions of the muscles are accompanied with severe pain; at other times with total insensibility. In some cases, spasms are joined with febrile symptoms, in others they are not attended with any disorder of the vascular system; and when this happens to be the case, spasmodic diseases, like palsies, may endure for years without putting an end to life.

The immediate causes of spasm must be sought for in the nervous system, and, we may presume, are the opposites to those which produce weakness and relaxation: hence we say, that spasms arise from an intenseness of motion, or an irregular distribution of the nervous fluid into different sets of muscular fasciculi; too much of this fluid being distributed to any particular set of muscles, we may presume, will cause these to contract with too much force, and exert unnatural degrees of strength; and as all the muscles of the body, excepting a very few, are placed in pairs, the one to counteract and balance the other, when therefore at any time the equilibrium happens to be destroyed between antagonist muscles from an irregular and unequal supply of the proper enlivening fluids, then immediately violent and involuntary contractions will take place on the one part, while weakness and relaxation will succeed on the other.

As a certain degree of fulness and tension in the vascular system is absolutely necessary for enabling the muscles to exert their proper powers, so when the vessels are at any time suddenly emptied, and allowed to collapse, not only weakness of the muscles in general will ensue, but very often spasms take place, no doubt from the irregular

relaxation of the motory fibres; whence the equilibrium between the antagonist muscles comes to be destroyed.

As we can know nothing of the mode of action respecting the immediate causes of this intenseness of motion or irregular distribution, we are obliged to content ourselves by making use of the term Stimulus, by which we mean every thing that, on being applied to the living solids, excites extraordinary motion. These stimuli occasion spasm, either in the muscular parts to which they are immediately applied; as for instance, the splinters of a fractured tibia will sometimes raise convulsions in the muscles of the leg, or they create the spasm in muscles that are distant, and to all appearance unconnected with the nerves where the stimulus is applied; as when worms or acrid matters, acting upon the nerves of the intestines, raise convulsions in the muscles of the limbs and trunk of the body; or lastly, stimuli may cause spasms when applied to the nerves at their origin within the cranium, as when sharp pieces of a fractured skull are forced in upon the brain.

Beside things which act mechanically in consequence of their sharp angular points, as in the instances just now mentioned, there are other stimulating substances of various sorts, which will be considered particularly in a future chapter.

The consequences of spasm will be proportionally distressing and dangerous, according to its violence, extent, and duration; weakness in different degrees always ensues, proceeding, as we suppose, from the waste and dissipation of the subtile fluid.

Spasm forms the distinguishing and predominant symptom in a certain order of diseases; in some of which the muscles remain in a state of involuntary and violent contraction, in the others the muscles are agitated with alternate contractions and relaxations, in opposition to every effort of the will. Some of these diseases are accompanied with pain, some are free from this distressing addition, and some are attended with total insensibility.

C H A P.

C H A P. XVI.

Of Insensibility.

INSENSIBILITY, like every other symptom, has its several degrees, which must be more or less distressing and dangerous, according to its duration and violence, and also according to the degree of disorder in the vascular system, which accompanies the privation of power in the nervous, particularly in that part of it which is allotted for sensation; for here the reader is to observe, that there was a distinction proposed with respect to the nerves; and that we inclined to follow the old physiologists, who allege that there is one set of nerves which is distributed in a particular manner, and spent on the muscular fibres; while the other is bestowed and appropriated to the several organs of sense.

Though it be impossible to observe any sensible difference between the two sets of nerves, yet, as the distinction enables us, in a more satisfactory manner, to make out the theory of the nervous symptoms, it will not be amiss to retain it. Thus, weakness and spasm may be held as morbid affections of the motory nerves; their actual causes being either remissness and suspension, or intenseness and irregularity, in regard to the distribution of the subtile fluid through this set of filaments; while, on this hypothesis, pain and insensibility must be looked on as disorders of the sensitive nerves; pain, arising from an intenseness, or excess of vibratory motion; and insensibility, from a remissness, or suspension of the same: with respect to the insensibility of particular limbs or organs, we often can trace it to its source, and find it owing to a compression of the nerves which lead to these affected parts, hindering the supply of enlivening fluid; but when the insensibility is general, we must suppose the fault to lie within the cranium. In fact, it has appeared from dissections, that
collections

collections of water in the ventricles, and between the foldings of the brain; blood extravasated in the same places; depression of the skull; and the enlargement or stuffing up of the blood-vessels and sinuses, have, in different subjects, compressed the medullary part of the brain, and hindered the free distribution, or perhaps secretion, of the nervous fluid.

There are many cases, however, where the loss of sensation cannot be traced to such evident sources, and where it will be found to depend on some disorder of the nerves bestowed on the stomach and intestines, which are overloaded with different offensive matters; so that here we must content ourselves with recurring to the word Sympathy.

Insensibility will sometimes be general, while the power of the muscles appears to be not much impaired, particularly in a disease, which however is a very uncommon one, called the catalepsy: here the patients seem absolutely dead with respect to the impressions of all external objects; while, nevertheless, the muscles have power sufficient to support the weight of the body, and to preserve the limbs in any particular posture that the bystanders choose to place them. But, in general, the motory nerves are disordered, at the same time that the sensitive become incapable of exerting their natural powers; and the muscles either grow paralytic, or are agitated with convulsive motions. Thus it is in the apoplexy, the paraplegia, the hemiplegia, and the epilepsy, where insensibility is always accompanied with either atonia or spasm; and in violent fevers the loss of strength, (which is one of the first symptoms) as they draw to a close, and the vessels of the brain come to be loaded and over-distended, is generally accompanied by different degrees of insensibility.

C H A P. XVII.

Excess of Sensibility.

WHEN even the moderate and usual impressions of external objects give uneasiness, the symptom is by some writers termed Erethism, though with more propriety it may be termed Hyperæsthesia, or supersensation.

We are not to confound this species of morbid affection with pain, which the mind always feels, so as to refer to some particular part of the body, supposed to be injured, or to suffer violence: whereas hyperæsthesia implies a general uneasiness throughout the whole frame.

We sometimes meet with cases wherein a particular organ of sense shall be so affected, that it cannot bear the usual impressions without uneasiness; and wherein the eye, for instance, shall be offended with a moderate degree of light, and the ear with moderate degrees of sound: besides, in some constitutions, we may observe a certain degree of erethism, which seems natural, and where the body is remarkably susceptible of the power of every thing that can stimulate or irritate, in the same manner as we often see degrees of insensibility peculiar to certain constitutions, wherein the powers of sense, both internal and external, shall be remarkably dull and languid.

But when erethism is so prevalent as to rise into a symptom, it is one of the most distressing that has yet been considered; and, accordingly, those diseases wherein it makes a part, unless it be but in an inferior degree, are of the most violent and fatal kind. In the hydrophobia, which seldom allows the patient to survive so long as four days, erethism is one of the distinguishing and predominant symptoms; inferior degrees of it are met with in maniacal, hysterical, and hypochondriacal cases, and in nervous fevers.

As to the immediate causes, or those changes in the state of the corporeal frame, that give rise to this increase of sensibility, there can be no absurdity in saying, that it must be referred to a general intenseness of motion, or general excess of vibration, throughout those nerves which are destined for the purposes of sensation. And if it can be an admissible supposition, that there may be a superabundance of nervous fluid, we might assign that sometimes as the cause of hyperæsthesia, in like manner as weakness and insensibility might often be ascribed to a deficiency of that same subtile matter.

If this symptom be of any considerable duration, it must necessarily be followed by delirium, which is the fifteenth and last of those which were enumerated.

C H A P. XVIII.

Of Delirium.

BY the word Delirium we understand that general disorder of the mental faculties, which, in opposition to the tenth condition of perfect health, hinders a man from perceiving justly, and judging truly, while at the same time the powers of memory and imagination are confused and perverted.

There are different species and degrees of delirium, which it is unnecessary to distinguish at present; what we are now to consider, are those changes in the corporeal frame, which may be held as the causes of this disorder in the mental faculties; for though in cases of pure delirium nothing appears amiss with respect to the body, yet if the healthy exercise of the memory, imagination and judgment depends, as we presume it does, on the equable, free, and moderate distribution and vibration of the subtile fluid, in that part of the nervous system which constitutes the organs of internal sense; when at any time this distribution and vibration shall become irregular, or is

raised above the healthy rate, these faculties of the mind will be disordered; for a similar reason, that the most dexterous performer must cease to have the power of producing either melody or harmony from a harpsichord, whose strings are not well adjusted or properly wound up and in tune. Such, we presume, are the immediate or actual causes of delirium: as to the contingent or possible causes, some of them relate to the mind itself, abstractly considered, and often arise from deep thinking, or intense application to abstruse studies; violent passions, and other affections of the soul, frequently produce not only delirium, but also occasion evident and permanent changes with regard even to the appearance of the external habit.

Delirium is a complaint extremely frequent in fevers; it is essential to an inflammation of the brain or meninges; and often makes the distinguishing and predominant symptom in a certain order of diseases wherein there is not any mixture of fever.

C H A P. XIX.

Inferences from the foregoing Inquiry concerning the general Symptoms of Diseases.

NOW that we have gone through all the fifteen general symptoms, some one or more of which we may expect to meet with in different degrees and proportions in all diseases whatever, it appears that they are all immediately to be referred to disordered motions in the nervous and vascular systems; for, as perfect health depends on the moderate, equable, and free circulation and distribution of the animal fluids, so we find that diseases which are the opposites to, or deviations from the conditions of perfect health, are so many changes in respect of the motions, either of the subtile fluid of the nerves, whose source is from the brain; or of the blood, and those different humours which are separated from it, and flow

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through

through all the variety of vessels that have the heart for their center.

When we take a review of all the immediate or actual causes of the fifteen general symptoms, we find that every one of them, unless perhaps excessive heat be sometimes excepted, either depends solely on changes in the nervous system, or is a nervous affection, mixed with disorder of the vascular system. Hence we may clearly understand, that as the motions of the nervous system are totally exempted from any known hydraulic laws, how extremely fallacious, and, we may venture to say, dangerous, all those theories must be which are founded on measuring the diameters of vessels, and calculating the force and velocity of the circulating fluids, since nothing is more apt to lead people into erroneous schemes of practice, than deductions drawn from such false, or, at best, uncertain premises.

Physic must not lay claim to mathematical certainty, and its professors should content themselves to remain within the lines by which the art is bounded.

Having thus explained the nature, pointed out the consequences, and, as far as we could, from the help afforded by physiology, settled what are the immediate causes of the different species of general morbid affection, we shall now endeavour to explain the remote or possible causes, which may occasionally co-operate with morbid dispositions of the body in producing diseases.

C H A P. XX.

Of the remote, or possible Causes of Diseases.

WHAT pathologists have treated of under the titles of morbi simplices, and morbi simplicissimi, whether they refer to the solids or to the fluids, have been rather improperly so termed, because the word Morbus, strictly speaking, implies an assemblage of distressing sensations, or of inabilities; we are therefore not to consider these morbi simplices as actual diseases, but only hold them as possible causes, or as morbid dispositions, that may concur in producing pain, sickness, weakness, or some other species of morbid distress or affection.

We shall begin with the morbid dispositions of the solid fibres, regarded simply as such.

The different degrees of strength in animal fibres, when these are considered as unconnected with that enlivening principle which enables them to exert the powers peculiar to living creatures, must consist in the different degrees of cohesion among the constituent particles.

Of whatever nature this principle of cohesion may be, it is liable to change, being sometimes deficient, and sometimes redundant; hence debility, softness, and relaxation on the one hand, and strength, hardness, and rigidity on the other.

But when we take into consideration the living solids or fibres endued with life, we shall find that the animating powers may be exerted, so as either to rise above or sink below the healthy standard.

When we consider what must follow from the excess or defect of the cementing principle in the solids, considered as inert, and also

what effects must ensue from an excess or defect in the exertion of the powers wherewith these fibres are animated, we shall then understand the nature of the "*morbi vasorum minimorum, seu solidorum continentium*," (as they are called by Boerhaave and Gaubius).

For weakness, relaxation, and insensibility, combined together, will naturally tend to produce remissness of the animal motions, whence coldness, languor, and a defect of the absorbent power in the lymphatic veins, together with a dilatation of the pores, and open orifices of the smallest arteries, allowing the contained fluids to transude, or fall aside into the cellular interstices, creating swellings, and accumulations of various humours, in different places; while, on the other hand, too great strength and rigidity, with too much sensibility, will naturally tend to produce intenseness in the animal motions; whence excessive heat, pain, restlessness, and all the various species of distress which make up those diseases, wherein there is a febrile commotion or inflammation.

These are some of the peculiarities which constitute the different temperaments, as they have been called, and which the old physiologists referred solely to the fluids; naming them according to the supposed predominancy of one or other of the four capital humours, sanguineous, phlegmatic, bilious, or melancholic, but which are now resolved into the different degrees and combinations of strength and sensibility.

(1.) Much strength of vessels, and much sensibility, constitute a temperament analogous to what the ancients understood by the sanguineous. (2.) Little strength, with much sensibility, forms the hysteric temperament, and answers in some measure to their bilious. (3.) Great strength and little sensibility coincides with the melancholic. While, (4.) Little sensibility joined to weak vessels constitutes the phlegmatic temperament of the old writers.

Having thus pointed out the morbid dispositions of the parts containing, we are next to consider those of the parts contained.

The animal fluids consist of particles essentially different, which act on each other by attractive or repellent powers; hence they are capable of forming a variety of combinations.

There is much diversity of opinion concerning morbid changes in the animal fluids, which have generally been held as the sources of all diseases; and many are the theories which have been formed from the days of the Galenists, when the four humours were believed to have existence, down to those wherein the chemists accounted for every thing from their principles of salt, sulphur, and mercury; acid and alkali; and until the mechanical physiologists fancied that they saw cubes and spheres, darts and wedges, in the animal fluids.

But the ill consequence of all such theories is, that they influence practice, and are too apt to turn our attention solely to the correction or expulsion of some particular offensive humour or matter, of which we form an imaginary notion; neglecting to observe the efforts of nature, or flighting that knowledge which is the result of experience.

The term Acrimony includes all those morbid matters, which, being mixed with the blood, either destroy its healthy crasis, stimulate the living solids, or corrode the inert.

As the theory of these morbid combinations has always been held a necessary part of the pathology, we shall here give a short sketch of it, as laid down by Gaubius, who is one of the latest, and supposed to be the best writer on this branch; not that we look on his distinctions as of much use in practice; it being very seldom that we can fairly deduce diseases from the kinds of acrimony which he has pointed out.

Gaubius

Gaubius makes five divisions of acrimony; the acid, the pure alkaline, the putrefactive, the muriatic, and the ammoniacal; and he enumerates particularly the several species of distrefs that may arife, fupposing thefe different acrimonies as actually fubfifting in the fluids.

1. The acid acrimony, by attracting and uniting with the aqueous, fuppreffing the inflammable, and diffolving the earthy particles of the fluids, will caufe palenefs, coldnefs, and foftnefs of the folid parts, with languor and remiffnefs in the vital motions; whence ftagnation and corruption of the humours, producing puftules, ulcerations, itching, and pain.

2. The alkaline acrimony, which alfo deftroys the crasis of the blood, will melt down its earthy and oily particles, irritate the living folids, and corrode the fides of the veffels, thus creating fpafms, and producing extravafation, and difcharges of different humours, according to the nature of the canals, whole texture is thus deftroyed or injured.

3. The putrid acrimony, (which is not to be confounded with the pure alkaline) when it takes place in the conftitution, is the moft deftructive of all; it deftroys the vifcidty of the blood, and renders it unfit for the purpofes of life; weakens and irritates the living folids, and corrodes both them and the inert; hence a total perversion and difturbance of the whole œconomy of vital motions, neither conquerable by art or nature.

4. The muriatic acrimony, arifing from the ufe of too much falt with our food, is faid to caufe, particularly, itching, rednefs of the fkin, puftules and ulceration, wafing of the flefh, and fometimes ftiffnefs of the joints, and inflexibility of the muscular fibres.

5. Similar effects will arife from the ammoniacal acrimony, which is fupposed to be the confequence of a preternatural retention of the
faline

saline part of the fluids, from an obstruction or stoppage of the natural discharges.

All this is perfectly systematical, and does very well to read; but when we come to look for these different species of acrimony in our patients, we shall not often be able either to find out or distinguish them.

We know indeed that the small-pox, the measles, and the lues venerea, arise from some peculiar subtle matter, which we find by experience will always produce these diseases, and no other species; but the qualities of this matter we cannot possibly describe nor determine; for who can tell what shape, colour, magnitude, taste or smell the particles are of, which are capable of producing any one of the diseases just now mentioned. Therefore, it will turn to most advantage, never to attempt investigating the peculiar nature of the different kinds of acrimony, for that would be pure loss of time; but having once found out what are the marks and signs which shew the existence of any particular kind of morbid matter, let us adhere to them, and then endeavour to learn from experience what the effects are which such matter generally produces, and what the methods of correcting or expelling it; thus we shall be enabled to do real service, whereas, by following the scholastic method, we shall be apt to fall into dangerous mistakes.

For example; a person comes with all the marks which the pathological writers tell us denote the predominancy of the acid acrimony; he is pale, languid, and broken out in a variety of pustules.

Now, if we should, without further inquiry, set about the cure of this person, by ordering alkaline salts, or absorbent earths, or such other things as we might imagine would conquer this offensive acid, we should perhaps prescribe to very little purpose; for, upon close examination, we may chance to find that the patient, instead of an
acid

acid acrimony, has his fluids corrupted by the venereal virus; we therefore shall think no more of the antacids, but proceed to correct and expel the particular morbid matter which has the peculiar property of producing the lues venerea, by such methods as have been found by experience to answer that end.

Let us therefore content ourselves to denominate the morbid matter from the disease which it is known specifically to produce, and be under no concern whether we know or do not know what its other qualities are, provided we can tell when it is present what effects will ensue, and what things will correct or expel it: the advantages of this method will best appear from an example.

One person complains of pains about the joints, with loss of appetite, languor, and uneasiness in the stomach; another complains of pains which chiefly affect the middle part of the bones, and rage with greatest violence in the night-season, being exasperated by the warmth of the bed; together with the other complaints already mentioned. Now, here we shall find, on weighing the observations that have been handed down to us, that one species of pain arises from an arthritic matter, and the other from the syphilitic; no man can tell what either the one or the other morbid matter is like, whether it tends to the alkaline or acid nature; but we know from experience, that if the one can be thrown upon the joints, so as to produce a sharp fit of pain, or if the other can be corrected by mercury, that then both patients will soon come to enjoy perfect health: therefore, instead of referring the causes of these diseases to the acid, the alkaline, or the muriatic acrimony, and searching for things to counteract and oppose these imaginary causes, we shall immediately prescribe such things to the first patient as have been found to assist nature in the effort of expelling the arthritic matter; and to the second, such as we know to be capable of correcting and subduing the venereal virus.

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These morbid matters which are found capable of producing, occasionally, particular species of diseases, are of two sorts. 1. Such as are native, and seem to arise in the body spontaneously. And, 2. Such as are adventitious, and come from without; being received into the body either by infection, which implies the transmission of some exceedingly subtle matter from one body to another without touching; or by contagion, which means the transmission of a subtle matter, requiring however that there be a real contact.

To the first head belong those kinds of morbid matter, which are capable of producing the gout, the rheumatism, the scurvy, the scrofula, and the cancer.

To the second belong all those amazingly subtle matters, usually termed miasmata, which are found capable of spreading through the atmosphere, and communicating the plague and other infectious fevers known by different names, the dysentery, the hooping cough, &c. as also the saliva of mad animals, the venom of vipers, and other noxious creatures; the matter of the lues venerea, scabies, and some other cutaneous diseases.

Every one of these different kinds of morbid matter, which have been enumerated, will, when generated in the body, or received from without, produce the species of disease peculiar to it, only with those varieties that happen from the different circumstances of age, sex, and constitution, provided the body be, at the particular time, in a disposition for being acted upon by the morbid matter; for such is the order of nature, that the diseases, which all these different kinds of acrimony are occasionally capable of producing, require not only the presence of the morbid matter, but also some certain concurrence and disposition in the state of the corporeal frame before the particular disease can be actually formed. We do not pretend to explain the nature of these concurrent dispositions, but rest contented with the certainty of the fact: thus, it is universally known, that the

small-pox, the measles, and the hooping-cough, scarcely ever seize the same person twice; but who is there that can even form a reasonable guess at the nature of the alterations which are made in the body, and leave it so disposed, that the same species of morbid matter shall not have the power of producing the same disturbance in the animal œconomy a second time? And thus it frequently happens, that persons of the same family shall be inoculated for the small-pox at the same hour, and with all apparent circumstances alike, and yet one shall take the infection, and the other escape it: the same thing may be observed with respect to other infectious, or even contagious diseases; in regard to which, some people are now and then found so happy as to want the peculiar disposition which is necessary to concur with the morbid matter before the disease can be produced.

Since these morbid matters seem to be essentially different, and to possess peculiar powers of producing changes in the living body, which, so far as the circumstances of age, sex, and constitution will allow, are invariable and uniform, it follows, that were we so happy as to find out things endowed with virtues to counteract the different species of morbid matter, we should then prevent the ill effects of each. But unfortunately for mankind, this has hitherto been done with regard only to a few; for, if we except the morbid matter in certain kinds of fever, the scorbutic virus, and that which is known to produce the lues venerea, we cannot say that the art of physic is in possession of any certain remedies; with respect to these diseases, indeed, experience has furnished us with means that scarcely ever fail, if applied in time, and with tolerable care and attention.

But what has been done with regard to the diseases just now mentioned, may, for any thing we can say to the contrary, be done in respect of more, and ought to encourage us in the hope, that in time somewhat may be struck out that shall cure even the gout and
cancer;

cancer; for terrible as the virus of a cancer may be, it is not more so than the venereal was, until practitioners happily discovered the specific powers of guaiacum and mercury. Guicciardini, the celebrated Italian historian, who was an eye-witness, relates, that the lues venerea, for several years after it first broke out in Europe, proved fatal to a multitude of both sexes and all ages; many became so horribly disfigured, that they remained useless, and subject to almost perpetual pains, and the best part of those who seemed to be cured, soon relapsed into the same misery. If it had so happened then that a specific remedy had not been found out until this day, how many thousands of people must have perished in a more shocking condition than by the most inveterate cancer? But to return.

If we suppose the morbid matter, be it of what nature soever, to be only seated in the cavities of the cellular system, whose sides are made up of inert fibres and lamellæ, and not at all mixed with the nervous fluid, nor with the blood and other humours contained in the vascular system, we may in such case conceive, that noxious matters may be present, and yet produce no sensible or apparent changes in regard to health. Thus, we know from the practice of inoculating the small-pox, that the variolous matter will remain for eight or ten days in the body without shewing itself, and the saliva of a mad dog may be insinuated through a wound of the skin, and yet many weeks, nay sometimes months, may elapse before any symptoms of the hydrophobia shall appear.

Why the one kind of morbid matter should shew itself so much sooner than the other, is an affair for which it is impossible to assign any intelligible reason, any more than why the saliva of a mad animal should bring on a hydrophobia, or the matter of the small-pox throw a person into a fever, and cover him all over with little boils.

It is the same thing with respect to every other species of morbid matter; so long as they are confined to the cellular system, they never raise any one of the fifteen general symptoms; and for the reasons already laid down, if any particular kind of acrimonious or morbid matter can be separated from the general mass of fluids, and be thrown out of the circulation; that is, from the vascular into the cellular system; the irritation which was occasioned by its stimulus will cease, and of course all the symptoms depending on that irritation.

This is the way that relief comes in many diseases, from the various kinds of efflorescence and cutaneous eruption; for in all these cases, the offensive particles, by the efforts of nature, and some inexplicable process with respect to the intestine motion of the fluids, are separated from the mass in circulation, and either forced out or suffered to escape through ruptured vessels, or to transude through the pores which are in the coats of the arteries, and thus are deposited in the cellular cavities, where they lie among inert solids, without raising further disorder.

All these morbid matters which have hitherto been treated of are supposed to exist in the general mass of fluids; but diseases are often produced by vitiated humours and other matters retained or accumulated in the first passages.

Frederick Hoffman seems to have been the first who considered, with much attention, this accumulation of noxious matters in the alimentary canal, and shewed it to be the source of many diseases; he has traced the sympathies which obtain between the stomach and different parts of the body, with great success, and has been followed in his inquiry by the late Dr. Whytt.

From these observations it appears, that almost every variety of disorder, with respect to the animal motions, may arise from the retention

retention or accumulation of morbid matters in the alimentary canal, as well as from different species of acrimony in the fluids at large; but the great difference between the diseases which depend on this sympathy and those which arise from faults in the fluids is, that these sympathetic diseases are more within the power of art, and much oftner cured, than the others, which are termed idiopathic.

The terms *Cacoehylia* and *Saburra* are used to denote the general accumulation of offensive matters in the alimentary canal, and they are distinguished into five different kinds: 1. The acid *saburra*. 2. The bitter. 3. The insipid. 4. The putrid. And, 5. The empyreumatic.

The general consequences of the alimentary canal, and particularly the stomach's being so loaded, are usually loss of appetite, nausea, pain, weight and fulness of the stomach, pain of the head, languor and weakness: but the particular complaints which are apt to ensue from each species of *saburra* are as follow:

First; the acid *saburra* will occasionally produce four belchings, swelling, tension, heat and pain in the stomach, heaviness and pain in the head, cough, hiccup, costiveness, and sometimes looseness and tenesmus.

The bitter *saburra* will be apt to give the sensation of a bitter taste in the mouth; cause immoderate thirst; heat and pain in the stomach; vomiting of yellow or greenish matter; and violent purging, with griping; and discharges of sharp and acrid humour; the whole generally accompanied or followed by a yellowish tinge in the whites of the eyes, and all over the body.

The insipid and tough phlegm, which constitutes the third species of *saburra*, produces clamminess in the mouth, destroys the appetite, favours the generation of worms, gives rise to abundance of flatulent matter; and when this is discharged upwards, the taste and smell of
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the last thing that was swallowed will come up strong, and but little changed, while a sense of weight will generally be felt about the region of the stomach.

A putrid kind of taste in the mouth, with flatulent eructations of the same flavour, weight at the stomach, oppression about the præcordia, weakness, sickness, vomitings of fetid matter, and purging of the same, will be apt to succeed an accumulation of the fourth species, or putrid saburra.

The rancid, or empyreumatic saburra, will be productive of belchings of sharp oily matter, like fried oil or butter, of violent heat, and pain in the stomach, with gripings, sickness, oppression, and nausea; and this species of saburra is esteemed a pretty sure sign and forerunner of the gout.

We may reckon want of sufficient bodily exercise, profuse discharges of blood, or of any secreted humour; great attention of mind to a particular object; violent and long-continued passions; all, as general causes of cacochylia: but when we come to inquire into the accumulation of the several species of saburra, we shall find things that particularly favour the production of one rather than of the other.

And first, the generation of acid saburra will be apt to take place, if the food be retained too long in the stomach, whether from a weakness in the muscular fibres of its coats, or by the neglect of proper bodily exercise, on account of a particular business or profession, or from mere inattention; for thus the mixture of food and digestive fluids, which naturally ought to run through a real fermentatory process, may possibly stay in the stomach, or smaller intestines, until the first or sweet stage of fermentation be passed through, and until the alimentary mixture shall get into the second or sour stage; and this will be still more favoured by feeding on such things as are already in a state of acidity, or which are prone to run quickly into
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the four stage of fermentation, such as milk, all the common fruits and farinaceous substances: hence it is easy to foretell what sort of people will be most liable to suffer from the four species of saburra.

The opposite to this, which is the putrid, may be generated from feeding too much on animal substances, without the proper mixture of vegetables, and from the too long delay of putrescent materials in the first passages; whence they may even pass beyond the four stage of fermentation, and proceed to the third or putrid stage, and then they must of necessity produce sickness and nausea.

The bitter saburra will be generated when there is too great a secretion of bile; or when it is delayed too long in the duodenum, and rises into the stomach.

The tough insipid saburra appears to be owing to an over-secretion of the mucus, which is naturally destined to lubricate and defend the inside of the whole alimentary canal; this is generally found in relaxed habits, and in hard drinkers, brought on, no doubt, from the continual state of irritation in which the excretory ducts of the mucous glands are kept, by the repeated affusion of stimulating liquors.

This superabundance of mucus will be apt to destroy the dissolvent power of the digestive fluids, and thus hinder digestion; and if fat or oily substances be taken into the stomach, while in this state, they will remain unmixed with the watery part of the food; and turning sharp from the mere heat of the place, will produce the rancid, or empyrheumatic species of saburra.

Though the greater number of the diseases which afflict the human body originally spring from sources already mentioned, yet there are other possible causes which may produce different species of morbid affection, and which the systematic writers refer to what are termed in the medical schools Non-naturals.

Under which title are comprehended the influences, 1. Of the atmosphere. 2. Of the food, whether solid or liquid. 3. Of the voluntary motion and rest of the body. 4. Of sleep and watching. 5. Of the passions and affections of the mind. And, 6. Of the things retained in, or discharged out of, the body.

To take these in their order, we may observe, first, with respect to the influence of the weather and change of climate, that excess of heat in the atmosphere expands the fluids, increases the cutaneous discharge, while it lessens that by urine; hence a dissipation of the most subtile part of the juices, producing excessive thirst, restlessness, wasting of the flesh, and loss of strength.

It was once thought that men could not live in an atmosphere heated beyond the degree of their own blood, but late observations shew the contrary, and that people may enjoy health when Fahrenheit's thermometer is up at 102, or even higher, provided there be no mistake in these accounts.

An excessive cold atmosphere is supposed to inspissate the blood, checks the cutaneous discharges, and is apt to give rise to the painful and inflammatory diseases.

Dry weather in general is not held to be remarkably productive of diseases, unless it be joined with excessive heat or excessive cold; but a moist atmosphere is always looked on as unwholesome, and is supposed to lay the foundation of morbid changes in the fluids, while it destroys the tone of the solids.

It is to be confessed, however, that our knowledge concerning the effects of these sensible qualities of heat and cold, moisture and dryness in the atmosphere, is too vague and indeterminate to be of much practical use; for, notwithstanding all the pains that many laborious men have taken to keep exact the registers of the weather for a long series of years, the matter, as yet, is far from being brought to such a degree of perfection, as to enable us to say, with any tolerable certainty,

certainly, what diseases are produced by the different kinds of weather: we can only speak of them in general terms; for as to those particular diseases which are frequently observed to seize great numbers of people at certain seasons, and whose progress can be traced from one country to another, though they are evidently spread by somewhat conveyed in the atmosphere, yet no person has hitherto been able to discover what this morbid somewhat is; so that in this, as well as with respect to the other specific kinds of morbid matter, we must be contented to observe effects without losing time in the investigation of causes.

The injuries which may arise from the second class of the non-naturals have been already touched on, when we shewed how the different kinds of saburra might be produced; to enter into a very minute detail would carry us beyond the bounds which we have prescribed to ourselves; however, we shall briefly mention the consequences which will naturally follow when the food offends either in respect to quantity or quality.

When the stomach is overloaded by an improper quantity of food, the motory fibres of the coats being over-distended, may lose their power of propelling the contents, which being thus retained, will swell the stomach, occasion sickness, difficulty of breathing, and perhaps fainting; and if the load be not speedily thrown off by vomiting, this extraordinary quantity of fermentable substances will go on to the acid, or even to the putrid stage of fermentation, and produce flatulent belchings, pain in the stomach, and severe gripings in the intestines, sometimes with and sometimes without purging.

On the other hand, a deficiency of proper food, or too severe fasting, beside the immediate distress which is occasioned from not satisfying the natural appetite, will render the juices in general too saline and acrid, which will soon become manifest in the saliva and in the bile: from this sharpness in the animal fluids will proceed a variety
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of morbid distress, particularly thirst, weakness, wasting of the flesh, inability to sleep, spasm, delirium, and in the end death.

When the alimentary substances offend, with respect to quality, it is usually owing to their being either too acrid, too viscid, or too oily; each of these, as hath been already shewn, will tend to produce the different kinds of saburra; and these again will give rise to a number of complaints formerly enumerated.

The substances on which we feed are, or ought to be, of such a nature, that the digestive organs have power to change the combination of their insensible particles, in such manner that they may be assimilated to, and united with, the substance of our bodies.

But there are many things which we occasionally take into the stomach, either by accident or by design, which are not capable of being so changed or assimilated; some of these have the power of producing such great and sudden changes in the animal motions, that they raise very high degrees of morbid distress, and often destroy life. These substances are termed poisons, and act, some of them, by exciting the animal motions, and others by stifling and suspending them.

Some poisons act most evidently on the vascular system, and accelerate or suspend the motion of the general mass of gross fluids; while others peculiarly affect the nervous system, occasioning nausea, vomiting, pain, giddiness, loss of sight, delirium, convulsions, sleepiness, and loss of sense.

Some again have their action determined to particular organs, and either promote or interrupt particular secretions.

Animal poisons, such as the juice of the viper, and other venomous reptiles, do not appear to be hurtful if taken into the stomach; but the vegetable, as well as the mineral poisons, are found, in general, to act both ways, either when swallowed, or when introduced by a wound through the skin.

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These vegetable or mineral substances, which are thus capable of producing such great and sudden changes in the animal motions, that, if imprudently administered, death must ensue, are, many of them, used in medicine, as very powerful remedies, and frequently produce salutary changes when skilfully managed.

Thus opium, many of the cathartics and emetics of vegetable production, and the various preparations of mercury and antimony, are either poisons or remedies, just as they happen to be administered.

With respect to the influences of the third and fourth classes of non-naturals, it is sufficiently obvious, that violent and too long continued muscular action must excite too great a velocity in the circulation, increase the animal heat, dissipate the finer parts of the blood, occasion thirst, wasting of the flesh, and loss of strength; and if pushed to the extreme, will certainly destroy the healthy crasis of the blood, and render it unfit for the purposes of life; or if the habit be already full of corrupt juices, and any of the viscera be unsound, sudden death may easily ensue from violent exertions of the muscular power.

Too little sleep, or over-watching, exhausts the strength, impairs the mental powers, and wastes the flesh, obstructs the digestive process, and vitiates the general mass of fluids, by rendering them acrid; whence may arise continual restlessness and delirium.

Too much rest from muscular action, and too much indulgence in sleep, diminish the power of the muscular fibres, and retard the progressive motion of the fluids; whence languor, dulness of the mental faculties, corpulency, and dropical collections, in consequence of the deficiency of absorbent power in the valvular lymphatics, whose action is greatly assisted by the lateral pressure from the muscles while they are in motion.

It is astonishing to see what changes may be wrought in the corporeal frame, in consequence of violent agitation of mind. Mor-

gagni, in his book "de Sedibus Morborum," (Epist. 38. Art. 2.) has given two very remarkable instances; the one of a person who died after being thrown into a violent fit of anger, and the other from being struck with fear.

In both of them, when the bodies came to be opened, there was such an evident alteration with respect to the appearance, and even situation of many of the internal parts, as is scarcely to be believed.

Anger and joy create an intenseness and acceleration of the motions in the vascular system, whence heat and restlessness.

Fear and grief have contrary effects; occasion a spasmodic contraction, drive back the fluids from the circumference, and retard the motions in the vascular system; whence coldness, oppression, difficulty of breathing, thirst, and loss of strength.

The more compound affections of the mind will raise, depress or suspend the animal motions, according as they shall chance to partake most of the angry and the joyful, or of the fearful and the melancholy; as also according to the duration of the passion, and degree of its violence.

The last class of non-naturals, which respects the discharges of the body, is a fruitful source of complaints, which will differ, according to the nature of the discharge, that is either suppressed or præternaturally increased; many of the disorders arising from saburra, and which have been already mentioned, are to be referred hither; beside which, we are to consider what may be the effects of a too profuse discharge by the bowels, by the kidneys, or by the skin, as also what must ensue from a suppression or retention of the different matters, which ought to be thrown off by these three different outlets: when we come to enumerate the different symptoms of diseases, we shall have occasion to mention all these complaints which spring from the sources here mentioned, and therefore are not under the necessity

necessity of introducing them here; only in general it may be noticed, that the suppression or retention of excrementitious matters of every kind must necessarily create distress, not only by distending, weakening, or perhaps rupturing the canals or receptacles wherein they are lodged; but also by vitiating and corrupting the general mass of fluids, which will thus become overcharged with those noxious matters that ought to be thrown off.

Large and sudden discharges, either of blood or of any secreted fluid, which is not of the excrementitious kind, immediately produce weakness, destroy the tone of the solids, and dispose the remainder of the mass to run into morbid combinations.

If we now add to all the various things already mentioned, those which are applied to the body externally, and which may create distress, by irritating, distending, constringing or crisping up the living solids, or which may divide or destroy the substance of either hard or soft parts, by fracturing, bruising, burning, or wounding, we may then form an estimate of the possible causes of diseases, and understand what a variety of things may, occasionally, prove the source of different species of morbid affection, general and local; but we are to be always careful never to confound these remote or possible causes with the immediate or actual causes.

C H A P. XXI.

Enumeration of partial or local Symptoms.

ALTHOUGH some one or more of the fifteen general symptoms will be found in all diseases whatever, in certain degrees and proportions, yet there are many which take their character from the disorder of some particular part, which can only be considered as a partial or local symptom; and therefore it is necessary that we should understand the nature, causes, and consequences of the different species of morbid affection which arise from the disorder,

(1.) Of

- (1.) Of particular faculties of the mind.
- (2.) Of particular external senses.
- (3.) Of particular appetites.
- (4.) Of particular secretions.
- (5.) Of particular excretions, or discharges.
- (6.) Of particular actions.
- (7.) Which consist in superficial disorders respecting the form and appearance of the external habit.
- (8.) Which disturb the situation and connection of different organic parts; and,
- (9.) Which destroy the texture and consistence of the same.

As we shall have occasion hereafter, when we come to treat of partial or local diseases, to enter into a particular description and explanation of all the symptoms which spring from the disorders above-mentioned, there will be no necessity for doing much more at present than barely to enumerate them in the order they have been laid down.

(1.) And first, the morbid affections of particular faculties of the mind must relate to the memory, the imagination, and the judgment, as considered separately; for each of these faculties is observed to be liable to disorder, independently of the other two, and may be impaired, abolished or depraved; which shews that there are distinct places in the nervous system that are to be held as the organs of internal sense, on whose sound state the perfect exercise of the memory, imagination and judgment depends, as much as the sight, the smell, or the hearing, depend on the soundness of the organs severally appropriated to these external senses.

(2.) The five external senses, the touch, taste, smell, hearing, and sight, we every day see are liable to particular disorders; sometimes they become so acute as to be unable to bear the common impressions of the objects peculiar to each of them, without creating pain and distress;

distress; at other times they become dull, or are so encumbered or obstructed that they do not transmit the impressions with sufficient force; sometimes they are depraved so as to convey impressions dissimilar to their objects; and lastly, the organs are often rendered altogether incapable to receive or convey impressions.

To these four heads all the different symptoms peculiar to each of the five senses may be referred; they are distinguished by a multitude of different appellations, many of which we shall be obliged to mention hereafter, when we come to treat of those diseases wherein such symptoms prevail, so as to give a name to the disease.

(3.) The third division of particular symptoms relates to the different appetites, which are given to animals for the two important purposes of self-preservation, and continuing the species.

These appetites, like the five external senses, are liable to preternatural increase, to morbid diminution, to depravation, or to entire abolition; and so constitute a number of particular symptoms, also distinguished by different appellations, some of which have been already treated of, and the others will be explained in the proper place.

(4.) The fourth division includes the disorders of particular secretions; which disorders must be at least four times as numerous as the secretions themselves; for any particular gland may either separate too much, or too little of the fluid peculiar to it; it may be so disordered as not to separate the proper humour, or it may be rendered altogether unfit for performing its office; in like manner, the humours of an entire class may be either preternaturally increased, preternaturally diminished or suspended, or they may be depraved so as that watery humours may pass into the organs for straining off mucus; gelatinous lymph may pass into the organs for separating oil, mucus, or water; and oil into the organs for separating mucus, water, or gelatinous lymph.

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The secreted humours, as was formerly explained, are partly thrown out of the body as excrementitious; partly circulated and distributed, by means of various orders of tubes or vessels, and partly deposited for different lengths of time in particular receptacles, and in different parts of the cellular system.

Of the excrementitious humours, by far the greatest share belong to the watery class, since the urine and the perspirable matter are ranged under this head.

It is the peculiar nature of the organs destined to strain off this superfluous water, that they labour mutually for each other; since it is observable, that when there comes to be a diminution in regard to the secretion of watery humour in one part, it is always made amends for by the increase in another; hence the reason of the great discharge of urine in hysterical paroxysms, wherein there is an extraordinary degree of stricture in the pores of the skin, denying a passage to the matter of insensible perspiration: hence the reason why cold bathing always increases the urinary discharge, and frequently that by stool; and hence it is, that the urine in winter, or in cold weather, is more than perspiration; while in summer, or in a warm atmosphere, perspiration is more, and urine less abundant.

Hence also the reason why the passions of fear, grief, or vexation, check the cutaneous discharges, and increase those by stool and urine. While on the other hand, a diarrhoea, or an extraordinary discharge of urine, will be lessened by increasing the cutaneous discharge, which diverts the flow of watery humours to the surface of the body; on the same principles also we may check the violence of a salivation, by deriving the flow of saliva from the parotid glands, and inviting it to the skin, to the kidneys, or to the intestines.

Thus we may account for the extraordinary flow of saliva, and perceive the great advantages thereof in cases where the other watery secretions

secretions are diminished or interrupted, particularly in the small-pox, where the greater part of the surface of the body is sometimes so covered over as to hinder the perspirable matter from passing off this way: here the patient may be preserved by an extraordinary spitting; or if this should receive a check, then the face and hands swell prodigiously, from the great load of watery humour thrown into the cellular interstices of those parts: when the spitting stops, and these swellings subside, people conversant in practice very well know that death speedily ensues.

There are cases wherein it appears, that the secretion of watery humours in general is too abundant; that is to say, the watery part of the blood is too apt to part from the other constituent parts, and either run off by the different outlets, or transude into the larger cavities, or into the cellular system, where it must accumulate, and form dropsies, if the absorbent power of the lymphatics should fail in any degree.

With regard to the mucous class of humours, which are chiefly destined to lubricate and defend different sensible membranes that are liable to suffer from acrid matters contained, or to come in contact with the external air, such as the pulmonary vesicles, the whole inside of the alimentary canal, the gall-bladder, the urinary passages, &c. these humours are sometimes observed to flow in unusual quantities to a particular part; and sometimes the whole secretion is greatly increased, so as to stuff up the lungs and create cough and difficulty of breathing, load the stomach, and destroy the appetite; render the bile viscid and inert, and even come off in considerable quantities with the urine; or sometimes mix with the perspirable matter, and give a clamminess to the cutaneous discharges. On the other hand, in some cases the secretion of this slimy fluid is diminished, whence dryness and rigidity of the several parts where it ought to be
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furnished, causing dry cough, obstinate costiveness, pain in making urine, &c. and sometimes the secretion is depraved, the organs which naturally ought to separate mucus being found to strain off some other humour. As for instance, in the coryza, or common cold, the pores of the membranes which line the nose, instead of furnishing a soft mucus, ouze out nothing but thin water, thus causing an excoriating soreness, frequent sneezing, and a troublesome cough, if the membranes about the larynx come to be affected in like manner; or even a still more severe cough, with pain and difficulty of breathing, if the pulmonary vesicles, instead of being defended by a soft mucus, shall come to be perpetually stimulated by a flow of thin watery humour: if the mucous secretion in the alimentary canal comes to be depraved, and watery humour be poured out instead of soft mucus, then violent griping and purging will ensue; and if the stimulus be kept up, a quantity of gelatinous lymph, or of the red part of the blood, will pass through the strainers for mucus, and produce bloody stools.

In all places where lymphatic vapour is supplied, (which are all the larger cavities, and the whole cellular system) we frequently observe accumulations of gelatinous lymph, which shew that this secretion has either been preternaturally increased, or that the absorbents have lost their power; for, when the secretion increases, the absorbent power must likewise increase, otherwise a dropsy must inevitably take place.

But this secretion may be preternaturally diminished, and the consequence will be, a cohesion of different parts, which were before kept from adhering by the interposition of this fluid; or it may be depraved, and either an oily, watery, or mucous fluid may be poured out into the places where nothing should be but gelatinous lymph; or the pores may be so far enlarged as to suffer the red part of the blood to transfuse.

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As to the oily humours, they also are sometimes observed to pass into the strainers for other kinds; for instance, in the urinary passages, where it is frequently observable that the fat is found mixed with the watery fluid separated in the kidneys, having been melted down by the heat from violent exercise, or from the force of a fever. Sometimes it mixes with the perspirable matter, and comes off in greasy sweats; and sometimes it is poured into the cavities of the intestines, and goes off in a diarrhoea. In some constitutions there is an extraordinary secretion of oily matter, and a vast propensity in it to separate; often accumulating so as to form a real disease, which is so much the more deplorable, as there is perhaps no possibility of curing it. On the contrary, there are cases wherein there seems to be little or no secretion of oily matter, and wherein all the places which ought to be naturally stored with oil are found replete with another kind of fluid. This is observed in the disease called the rickets, where the cells of the bones, instead of marrow, are found only to contain a gelatinous substance.

So far we have a view of the symptoms arising from disorder of the secretions, as considered in the general way; but there are a multitude of particular symptoms, which arise from the disorder of particular glands, all of which must produce different degrees of distress with regard to the body in general, according to the degree of importance of the organ affected, and which will naturally occur to every person who knows the structure and uses of all the different parts wherein humours are separated or strained off: as for instance, the tears are one of the watery humours, and their use is to moisten the surface of the eye, to preserve its transparency, to render its motions (which are almost perpetual while we are awake) free and easy, and to prevent the eye-lids from growing to the ball of the eye while we are asleep. Now, the secretion of the tears may be either preternaturally increased or preternaturally diminished, it may be de-

praved or it may be altogether obstructed. When preternaturally increased, the tears will run down the cheeks, and this running, if perpetual, produces a disease which the writers term Epiphora; this disease will also follow if the puncta lachrymalia be stopt; or if the duct which opens from the larymal sac into the nose be obstructed.

If the tears be not supplied in sufficient quantity to answer the several purposes just now mentioned, the eye will grow hot, dry, and painful; ulcerations, inflammations, and cicatrices, forming specks, will ensue, producing different degrees of blindness. And if it should so happen, that the tears cease to be supplied, or are so depraved, that instead of a thin watery fluid, a thick and viscid mucus should be poured out; then the eye-lids would grow to the ball of the eye, and the parts would inflame, swell, and ulcerate. Or to give another example in regard to one of the particular mucous secretions; we know that the urethra is naturally defended by a slimy fluid, which hinders the urine from irritating the sensible membrane that lines this canal. Now, if this mucus comes to be poured out in too great abundance on account of a relaxed state of the pores which supply it, then there will follow a gleet, or perpetual discharge of slimy fluid, without pain; but if the mucus of the urethra comes to be depraved, and instead of being mild and viscid, shall become acrid and thin, then the discharge will naturally produce pain, as the tender membrane is now left without its defence, and the urine, as it passes along, will irritate and inflame it.

Thus, from considering the use and structure of the particular organ affected, we may always know what distress must ensue from disorders of the secretion peculiar to it.

(5.) The fifth division of particular symptoms comprehends the disorders affecting the different discharges by stool, urine, and perspiration, which may be either diminished, suppressed, or preternaturally increased.

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The periods for expulsion of the *fæces* are so different in different people, that it is impossible to determine abstractly the natural and healthy intervals; so that we are always to take the concomitant symptoms into the account, before we determine that either costiveness or looseness are morbid; for unless pain, sickness, or loss of strength and appetite attend either the one or the other, we are not to look on a person who has but one stool in three or four days, or a person who has two or three in one day, as labouring under a disease, for these may be natural habits of body. The *fæces alvinæ* therefore may be frequently discharged, or they may be retained for several days without creating morbid distress.

Obstinate costiveness sometimes arises from want of irritability in the motory fibres of the larger intestines, but is more commonly owing to a deficiency or inactivity of the bile; this humour may become too viscid and inert, or it may not be poured into the duodenum in sufficient quantity, and this may proceed from obstructions, either in regard to the secretion, or in respect of the passage from the liver along the proper ducts; these being stoppt up with viscid matter, or choaked by calculous concretions; or the ductus communis may be constricted by a spasmodic disorder of the muscular fibres, either of the duct itself, or of the intestinum duodenum, so as to hinder the flow of bile from the gall-bladder into the gut.

Violent purging is generally owing to a redundancy of bile, or to its too great sharpness and acrimony, stimulating the coats of the intestines not only to more frequent contractions, but likewise inviting a flow of mucus or watery humours; all other acrid or offensive things, whether taken in the way of food, medicine, or poison, will create the like distresses, and bring on the like violent discharges, all which must at least produce weakness, bring on pain, and waste the fleshy parts of the body.

If the urine be not separated in the kidneys, from a fault peculiar to these organs, and the saline and oily matters which ought to pass off this way be left in the blood, a great variety of distress will ensue; namely, excessive heat, thirst, nausea, want of rest; convulsions, vomiting, and death inevitably, if the patient be not soon relieved. The urine in such cases has been found to force its way through the pores of the skin, producing foetid sweats, to run off by the intestines, to be thrown up from the stomach, or flow into the parotid and maxillary glands, or into those of the breast, mixing itself with the saliva and with the milk.

If the urine, after having been separated by the kidneys, and conveyed to the bladder, be there retained, the like distresses will follow, attended with excruciating pain, from the violent distension of those very sensible parts which are now concerned. But sometimes the discharge of urine will be preternaturally increased, and flow off in such quantities as to carry with it a great share of nutritious matter, and consequently produce a general weakness and wasting. Sometimes the sphincter at the neck of the bladder will lose its constrictive power, so that the urine shall perpetually drip away.

The cutaneous pores may be preternaturally relaxed; whence will proceed colliquative sweating, or they may be too much constricted, so as to obstruct perspiration, and give rise to a variety of complaints, particularly heaviness of the head, stuffing of the chest, cough and hoarseness; or the cutaneous discharge may be depraved, so as to yield sweat with a disagreeable smell, or tinged yellow or red.

(6.) We are now to consider the disorders which disturb or impede the action of particular organs and instruments of motion, as these make the sixth division of local symptoms.

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The organs of voice will be disturbed in their action by every thing that hinders the aperture of the glottis from being freely contracted or dilated, so that the current of air which comes from the lungs shall not be properly directed in striking against those elastic cartilages, whose vibrations modulate the voice.

The voice will likewise be proportionally impaired, according as the cartilages of the glottis shall lose their elasticity, becoming so soft that they cannot vibrate; or if they become too rigid, so as not to yield readily to the force of the muscular fibres; or, again, if they shall happen to be so covered with mucus, that their motions are thereby impeded, or their power of vibration taken away, in the same manner as we may destroy the proper vibration in the strings of a violin, by the application of grease.

Hence we may readily see, that the voice may be impaired or destroyed in a great variety of ways; as from spasmodic contraction, or paralytic relaxation of the muscles of the glottis; from a flow of humours to these parts, either relaxing the cartilages, or covering them over with slime and mucus; from too great rigidity, as happens in extreme old age; or when the parts about the larynx are greatly distended by an inflammation; or when they suffer actual loss of substance from ulceration.

The voice also must be affected by all disorders whatever, which impede the action of the lungs, and hinder the air from being either received or expelled with sufficient ease and freedom.

The action of the lungs is frequently disturbed by coughing, sneezing, involuntary laughter, or hiccup.

The uses of coughing and sneezing in the animal oeconomy are too obvious to require being pointed out; but when from any particular cause, either of these actions becomes so violent and so frequent, as to create pain, difficulty of breathing, restlessness, or any other of
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the fifteen species of general distrefs (as already explained), then they are to be held as morbid, and become fymptoms in different difeafes.

The caufes producing an irritation in the pulmonary veficles, or in the upper part of the trachea, and about the larynx, which throws the mufcles concerned in refpiration into action, fo as to force out the air from the lungs, by quick and repeated contractions, and raife a cough, are fo very numerous, that they fhall be referved till we come to treat of difeafes wherein a cough is the diftinguifhing fymptom.

But with regard to fneezing, (which very feldom comes to be fo violent or of fo long continuance as to be looked on as a difeafe) it will be brought on when any thing acrid falls particularly on the membranes of the nofe, as in the cafe of a common cold, wherein thofe membranes are deprived of their mild and foftening mucus, and ftimulated by a flow of fharp watery humour. In like manner, while the fmall-pox or measles are juft on the point of appearing, the membranes of the nofe are often ftimulated by the acrid matter, and violent fneezing precedes the eruption.

Sneezing will likewise be brought on by the affection of nerves at a diftance, from fympathy with thofe beftowed on the mufcles concerned in the action of refpiration; and this fymptom is one of thofe we meet with in hysteric difeafes. In like manner, in thefe difeafes we often fee involuntary and violent laughter brought on by the fame kind of fym pathetic affection of thefe mufcles.

The hiccup confifts in a quick and fudden defcent of the diaphragm, which drags downward the œfophagus; and this being connected with the larynx, it likewise is fuddenly pulled down, and in the fame inflant of time the aperture of the glottis is ftraitedened; whence the air, pushing into the vacuum through the narrow chink, occafions a fingular kind of noife.

These are the immediate causes of hiccup, but the remote causes are generally an overfulness, or some irritating matter in the stomach.

This symptom seldom becomes so troublesome as to require particular regard; though now and then it is found to continue very obstinately for whole days and nights, and it is then generally owing to great quantities of flatus in the stomach or intestines, or to an infarction of some of the larger abdominal viscera.

The action of swallowing depends on the soundness of such a number of little muscles, that it may be disordered in a variety of ways; these muscles may be convulsed, or they may lose their power, and become paralytic; they may be inflamed or ulcerated, or the different parts about the fauces may be stuffed up and swelled from such a number of sources, that it would be improper to enter into the consideration at present.

The action of the stomach is often disordered by vomiting, occasioned, for the most part, by acrid or offensive matters taken into it; though sometimes we meet with severe and long-continued vomitings, which are owing to affections of the nerves at a distance from the stomach, or from stimuli acting on the brain itself. It is of the greatest importance in practice to be able to distinguish these sympathetic vomitings, from those which are idiopathic, or occasioned by offensive matter actually lodged in the stomach.

The action of the heart is often disordered by a palpitation; and sometimes this is a merely nervous affection; the heart, considered as a muscle, being disordered by a convulsive motion, either from sympathetic connection, or from irritating substances contained in the pericardium, and immediately applied: at other times a palpitation of the heart is owing to some stoppage, with respect to the free passage of the blood through its cavities, from polypi stuffing up the large blood-vessels, or from an aneurism of the aorta.

In like manner, the action of particular parts of the arterial system will be impeded by aneurism, which is generally an extraordinary dilatation of the coats of the arteries.

The disorders of particular muscles appertaining to the limbs are to be referred either to spasm, when the fibres contract themselves involuntarily, or to paralysis, when they have not the natural degrees of power.

(7.) The seventh division of partial symptoms contains those which disorder the form and appearance of the external habit.

Sometimes the whole external form and appearance are affected, either from an entire swelling of the body, or from universal waste.

These general enlargements are occasioned either from an excess of fat, termed Polyfarcia; from an accumulation of serous or watery fluid in the cellular system, called Leucophlegmatia, and Anasarca, or from elastic air filling up the same cavities, named Emphysema.

The terms for wasting of the body are Marcor, Marasmus, and Atrophia, which are consequent upon a great number of diseases; though we sometimes meet with cases wherein it is difficult to trace the wasting of the body to its source, and where it must be considered as a primary symptom.

With respect to colour and complexion, there is no absolute standard; and we are always to form our judgment from the other circumstances which attend; for if no one species of morbid distress or affection accompany uncommon appearances on the surface of the body, we can only look on these appearances as so many species of deformity.

Thus, for instance, extreme paleness, unless it be accompanied with some inability or distressing sensation, cannot well be reckoned morbid, because it may be natural to that particular constitution. But if a person be extremely pale, and at the same be languid, weak,

and deficient as to appetite, we may then look on the paleness as a symptom, and conclude that the subcutaneous vessels are either not sufficiently supplied, or that they are filled with poor and watery fluids.

The skin is likewise liable to turn yellow, or even of a dusky green, and in the end almost black; namely, in cases where the bile has been stopped for a length of time in its passage from the gall-bladder into the duodenum.

In habits where the texture of the blood is injured, and it loses its natural viscosity, the red particles escape through the pores in the arteries, which ought to suffer only pellucid lymph to pass, and then the skin is found sometimes of a livid cast; but more frequently only interspersed with spots of the same hue, and of different sizes. This is peculiar to diseases wherein the fluids are in a putrescent state, whether accompanied with a fever, or whether there be no particular disturbance in regard to the general circulation.

There are moreover a great variety of eruptions which appear on the skin; some of them unconnected with any degree of fever, and others, which are always preceded, and very often accompanied by the febrile commotion: to the former head belong the various species of leprosy, distinguished among writers by several different appellations; the scabies also, or common itch; many symptoms of the lues venerea; the herpes; and a variety of other pustules and pimples, which authors express by different names.

The eruptions which are always preceded, and for the most part accompanied with a degree of fever, are, the small-pox, the measles, the miliary, and the petechiæ or purples; to which add the erysipelas, and the scarlet fever; where, in the first instance, some particular part (very often the face) is inflamed, and considerably swelled; and in the latter case, the red broad streaks are spread all over the body; the aphthæ, which are little whitish floughs, or ulcerations about the lips and inside of the mouth; and the effera, which

are eruptions like the stinging of nettles, very frequent in the warm climates, are likewise to be referred to the symptoms belonging to the skin.

Particular parts of the body are swelled by accumulations of blood, of serum, of oily or purulent matter, either contained in cysts, or circumscribed within a small compass, and then the swelling is round and prominent, or more diffused throughout the cellular interstices, when the swelling is flat and extended.

Some of these tumours are attended with excessive heat, pain, and redness, while others are indolent, give little or no pain, and are neither discoloured nor hot.

(8.) Oftentimes swellings are included in the eighth division of local symptoms, when they are occasioned by the change of situation and connection of different parts; as when some of the intestines, the omentum, and other contents of the abdomen, push out in different places; these, in general, are termed herniæ or ruptures, and are distinguished by different names.

The uterus likewise is liable to fall down into the vagina, and sometimes even to appear externally; and the internal membrane of the vagina is sometimes so relaxed and enlarged as to push out; in like manner, the intestinum rectum sometimes protrudes either from a relaxation of that part of the mesentery which sustains the colon, or from an enlargement and relaxation of its internal membrane.

The bladder is also liable to be inverted, and to push out at the opening of the urethra. Not only the soft parts of the body are thus liable to slip from their natural situations, but the bones also are frequently dislocated, and produce different degrees of pain, swelling, and distress, according to the nature of the particular part affected.

(9.) The texture of the soft parts may be destroyed, either by some sudden external violence, wounding, lacerating, bruising, or burning;

burning; (whence all the different species of wounds, contusions, and burns, producing different degrees of distress and danger, according to the nature and importance of the part so injured;) or their texture may be destroyed gradually by the force of some internal acrimony, corroding and dissolving the solid substance, and producing all the various kinds and degrees of ulceration.

In like manner the bones may be crushed, fractured, and fissured, in a variety of ways, by external injuries; or their substance may be corroded and dissolved by slow degrees, and by the power of some sharp humour, producing all the various kinds and degrees of caries.

Or the consistence of the bones may be so changed, that they shall become soft and pliable like a cartilage, or even degenerate into a substance like flesh, or coagulated blood; and on the other hand, they are sometimes seen to grow too dry and brittle, so as to be liable to break on every trifling occasion.

With regard to all the fleshy parts, their consistence is also liable to be changed; sometimes so that they shall become hard or callous in different degrees, or (though very rarely seen) even as hard, and of a substance similar to that of the bones; but more frequently the soft parts are dissolved and degenerated into fungus, or are melted down into purulent matter, and form abscesses of various sorts.

Thus have we finished the enumeration of local symptoms; but as there are some complaints which are either peculiar to one sex, or which are only met with during the state of infancy, it is necessary that these should be also noticed, in order to have a complete view of all the symptoms, which are either general or particular.

C H A P. XXII.

Sexual Symptoms, and such as are peculiar to the Infant State.

THE symptoms which are to be considered as sexual depend on the different formation of the organs, which distinguish male and female, and on certain circumstances peculiar to each sex.

Symptoms peculiar to men.

Those complaints which are proper to men, consist in disorders respecting,

1. The separation, retention, or emission of the semen.
2. The testes and scrotum.
3. The penis.

If the semen be not separated from the blood the venereal appetite will rarely be felt; if this fluid be too long retained and accumulated, a swelling of the testes or of the spermatic chord may ensue, or the disorder termed Satyriasis; but if it be too frequently or too profusely discharged, a weakness of the seminal vessels will succeed, and there will be a gleet (gonorrhœa simplex) or perpetual dripping from the urethra of a whitish mucus; besides a number of more general symptoms, such as pain in the loins, loss of strength and appetite, wasting of the flesh, and oftentimes failure of the understanding.

The testes are liable to inflammation and suppuration, producing what is termed Hernia Humoralis; or they sometimes degenerate into a hard, lumpy, indolent swelling, called Sarcocoele; or the vessels leading to them become varicose, and produce a Cirsocele.

The scrotum is frequently distended with a watery fluid, when the disease is termed Hydrocele; or it often receives the omentum and intestines, when they fall through the rings of the abdominal muscles, and thus constitute the Hernia Scrotalis, or Oscheocoele.

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The penis is often affected with the venereal symptom, termed a Chordee, which is an extremely painful erection, and at the same time a contraction of the frenum bowing down the glans; and likewise with a collection of watery fluid between the folds of the prepuce, termed ChrySTALLINE; all these, together with Dysuria, and what are vulgarly called Chancres, viz. little serpiginous and painful ulcers on the glans and prepuce, are frequent attendants on the gonorrhœa virulenta, which is a discharge from the urethra, of a purulent and ichorous matter, the well known consequence of a contagious virus.

Symptoms peculiar to women.

The symptoms or complaints which are peculiar to women consist in disorders, respecting,

1. The menstrual discharge.
2. Pregnancy; and,
3. Lying-in.

And in local affections of the ovaria, uterus, vagina, and os externum.

When the menstrual discharge is diminished, or altogether suspended; then languor, sickness, swelling of the abdomen, pains in the hypogastrium, corruption of the general mass of fluids, hæmorrhages from different parts, and a variety of other complaints are apt to follow, some of which are so irregular, and so different in different subjects, that it is not easy to arrange them in systematic order. On the other hand, a profusion of the menstrual discharge will produce weakness and pain in the back, loss of appetite, wasting, paleness, flatulency, sensation of cold, and divers anomalous complaints, which are usually denominated hysterical symptoms.

When the menstrual discharge is depraved, and instead of florid blood, a thin, poor and watery fluid is thrown off; or when serous, mucous or acrid humours perpetually ouze out, the like symptoms, for the most part, ensue, with those that follow the immoderate profusion.

fufion. And thefe different fluors proceed fometimes from mere laxity of the veffels, and fometimes from a corruption of the fluids, exulcerating and corroding their containing folids.

Sterility is the ufual confequence of the different diforders which regard the increafe, diminution, or depravation of the menftrual difcharge.

Pregnancy is always attended, at leaft in the firft three or four months, with a variety of fymptoms, for the moft part fimilar to thofe which are the confequence of obftructed menftrua. Such as naufea, vomiting, oppreffion, and lofs of appetite.

Abortion may enfue from a variety of caufes; but in order to underftand the theory of it, we are to confider, that the placenta and uterus mutually anfwer to each other, as they extend and increafe in fize and capacity; the uterus is enlarged, and the fluids conveyed to it by the power of the mother's heart; the placenta grows, and its veffels are diftended by the power of the heart in the fœtus; hence the neceffity that there fhould be a proportionate equilibrium between thefe two forces: for if the uterus enlarges fafter than the placenta grows, then the uterus will be feparated from the placenta; while, on the other hand, if the placenta fhould grow fafter than the uterus enlarges, then the placenta will be detached from the uterus: thus, we fee how it happens, that too great a fulnefs on the part of the mother, whereby the veffels of the uterus are apt to be overloaded, fo as to make it enlarge fafter than the placenta grows, often proves the caufe of abortion, and how ferviceable bleeding muft be in order to prevent it: thus alfo we can readily affign the reafon why fudden fear or continued grief, which constrict the veffels at the circumference, and throw the mafs of fluids in upon the center, fhould fo often caufe abortion. And thus we may underftand why the death of the fœtus, and confequent ftoppage to the growth of the placenta, muft fo foon be followed by a feparation.

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As to external violences, whether blows, falls, or bruises, they may, from the mere shock, separate and destroy the union between the uterus and placenta, and so cause abortion or untimely birth.

The symptoms during the time of labour are some of them natural and beneficial; others are to be deemed morbid and detrimental.

It is of great importance to practitioners in midwifery to know, and constantly bear in mind, that the action of the diaphragm and abdominal muscles is not sufficient to empty the womb, and that the expulsion of its contents depends on the contractile power of the muscular fibres which enter into its texture; because this knowledge is what must regulate the manœuvres respecting the delivery both of the child and of the placenta. What are termed true labour-pains are the result of repeated contractions of these uterine fibres, which persons experienced in this branch of practice know well how to distinguish from the false pains, which are nothing more than spasmodic affections of the abdominal muscles; the efforts from these false pains appear to force down the child, but are never found sufficient to expel it.

During labour, cramps in the muscles of the lower extremities are often found to give distress; convulsions also (though not frequent) seize women during labour, and are extremely dangerous.

If the placenta be detached from the uterus, either wholly or in part, before the expulsion of the child, a proportionate flow of blood or flooding will ensue, whence fainting, convulsions and death, unless immediate assistance be had. And here it is of the greatest importance that the accoucheur should recollect, that it is the contraction of the uterus which forces out the child; for without adverting to this circumstance, the woman's life may be brought into imminent danger, as will be explained in its proper place.

A flooding also is apt to succeed after delivery, if the placenta be forced off without waiting for the contraction of the uterus, or if

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the fibres of the womb be so far debilitated, that they have not a sufficient degree of contractile power.

After-pains, as they are termed, are a common consequence of delivery. Sometimes these are occasioned by acrid matters pent up in the alimentary canal, (which are generally the cause of the false pains before the birth) but most commonly after-pains are owing to some clots of blood, or to a part of the membranes, or perhaps placenta, which happen to break off, and are left in the uterus.

On the third day, sometimes sooner, seldom later, the breasts grow hard and painful, and different degrees of fever arise, which continue until the milk flows into its proper channels, and then the fever goes off in a plentiful perspiration. But sometimes the milk-fever will run very high, and continue longer; and in the course of it, miliary eruptions will make their appearance.

These eruptions are also seen in lying-in women without a fever, and then there is little danger to be apprehended from them, whereas those which succeed a fever are always to be suspected.

The milk gradually disappears if the secretion be not increased by the suction of the infant, so that by the end of the third week after lying-in, it is, for the most part, entirely gone; but sometimes it stagnates in the breasts, and produces hardness, swelling, inflammation, and abscess.

The foregoing may be considered as general symptoms; those which are local respect,

1. The ovaria; wherein there is sometimes found a collection of watery fluid, forming a dropsy; and at other times these bodies are enlarged by a schirrous swelling.

2. The uterus: water is sometimes confined and collected in the uterus, and distends it so as to be mistaken for pregnancy: flatus also has been known to be shut up in this cavity; solid, fleshy, fatty,

or even boney substances, have been observed to grow in the uterus, and to swell it to a large size. It is a part very liable to schirrhous and cancer, and when so affected, is sometimes so far enlarged as to press on the neck of the bladder, and occasion a stoppage of urine, and on the rectum, hindering the fæces from passing off. The uterus is subject to prolapsus, falls down into the vagina, and sometimes appears without the os externum: there have also been instances where the uterus has been inverted by forcibly dragging away the placenta.

3. The vagina is also liable to prolapsus, when its inner membrane is so relaxed that it falls down, and protrudes in like manner as the rectum does in the procidentia ani. Polypi or fungous fleshy excrescences sometimes grow in the vagina; discharges of mucous, watery, or purulent fluids frequently come from relaxed vessels, and form ulcerations in this place, as well as from the cavity of the uterus. The passage to the uterus is sometimes closed up, either by a preternatural thickness and extension of the hymen, or from the sides of the vagina or labia pudendi growing together: if this stoppage happens to subjects who are in a state of menstruation, all the variety of complaints which follow upon obstructions of this natural discharge will be superadded to the pain and swelling of the abdomen. These are the principal symptoms proper to women, the following are peculiar to the infant state.

Symptoms peculiar to Infants.

The skin of new-born infants, in two or three days, very commonly turns of a deep yellow, as is supposed, from the bile's regurgitating, and mixing with the blood; this humour being prevented from passing into the duodenum, probably from a load of viscid slime choaking up the aperture of the ductus communis, or possibly some of the meconium or fæces of the infant may be absorbed and carried

into the blood, and give that yellow tinge, which, however, generally wears off in a week or two, without seeming to have produced any ill effect. A red pimply eruption, termed the Red Gum, is another appearance peculiar to new-born infants, and generally holds more or less for the first four or five weeks.

It sometimes happens that the natural passages are found closed up, especially in boys, where the opening of the prepuce is apt to be so glued together as to require immediate circumcision.

Gripping and green stools are symptoms to which infants are extremely subject; they are likewise liable to aphthæ, vulgarly termed the Thrush, when a number of little whitish floughs break out all over the tongue and inside of the mouth, and seem to spread themselves down along the alimentary canal till they appear about the anus, in little ulcers, which sometimes end in a mortification. Convulsions are a frequent consequence of the accumulation of acrid matters in the bowels of infants, and carry off multitudes during this tender state.

Dentition generally commences about the sixth month, and goes on to excite various species of distress till infants are between two and three years old, such as pain, heat, restlessness, gripping, cough, and convulsions.

Within this period, children are liable to the rickets, the bones lose their solidity, and grow spongy towards the joints, where there appear protuberances of various sizes, particularly at the wrists, and at the places where the ribs articulate with the sternum. This is a very frequent disease, especially in large cities.

Swelling and hardness of the abdomen generally accompany these swellings of the joints, and likewise periodical heats, with loss of strength and wasting of the flesh.

Eruptions of various kinds are apt to appear on the skin of young infants, and discharges of purulent matter from behind the ears, and
sometimes

sometimes from the internal part of the ear. When children are past the dangers of dentition, they then begin to be subject to worms; and in consequence of these, are often afflicted with fevers, or different spasmodic diseases.

To the foregoing account of symptoms we shall here subjoin a table, which gives a connected view of the whole, and will serve as a recapitulation.

General Table of Symptoms.

A symptom is a simple morbid affection; or, in other words, a single complaint of some distressing sensation, inability, or local disorder.

Symptoms are distinguished into general, local, sexual, and infantile.

General Symptoms are,

1. Sensation of excessive heat.
2. Sensation of excessive cold.
3. Sicknefs.
4. Excessive thirst.
5. Pain.
6. Itching.
7. Restlessness.
8. Somnolency.
9. Oppression.
10. Difficulty of breathing.
11. Weakness.
12. Spasm.
13. Insensibility.
14. Excess of sensibility.
15. Delirium.

Local symptoms consist in the morbid affection of,

I. Particular organs of internal sense, whence ensue disorders of the different faculties of the mind;

Memory,
Imagination,
Judgment.

II. Parti-

II. Particular organs of external sense; whence disorders of the different senses, of

Seeing,
Hearing,
Smelling,
Tasting,
Touching.

III. Particular organs on which the different appetites depend; whence disorders respecting the desires for

Food,
Venery.

IV. Particular glands or secretory organs; whence disorders of the different secretions,

Watery,
Gelatinous,
Mucous,
Oily.

V. Particular excretory organs; whence disorders respecting the different discharges by

Stool,
Urine,
Perspiration.

VI. Particular motory organs; whence disorders respecting the

Voice,
Manducation,
Deglutition.
Action of the Stomach,
————— Lungs,
————— Heart,
————— Limbs.

VII. Ex-

VII. External habit; whence all the variety of superficial or external complaints, such as

Swelling,
Wasting,
Discoloration,
Eruption,
Ulceration.

VIII. Different organic parts, which are liable to slip, fall, or be forced from their natural situations and connections; whence

Herniæ,
Prolapsus and procidentia,
Luxations.

IX. Solutions of continuity, either of the soft or hard parts, whether by external injuries or from internal causes; whence

Wounds,
Contusions,
Burns and scalds,
Ulcers,
Fractures,
Caries, &c.

Sexual symptoms peculiar to males, consist in disorders of the
Seminal vessels;
Testes,
Penis.

Those which are peculiar to the female sex, consist in disorders of the
Uterus and ovaria,
Vagina and os externum.

And in the various complaints attendant upon
Menstruation,
Pregnancy,
Parturition,
Nursing.

Infantile

Infantile symptoms are but few, being those morbid appearances, defects, and complaints, which are only seen or met with in new-born infants, or until they are past teething; such as the eruption vulgarly termed Red Gum, being tongue-tied, imperforate, &c.

The different local symptoms, as well as the sexual, and those peculiar to the infant state, are, for the most part, distinguished by particular appellations, and these names, as will appear hereafter, are used to express the several local, sexual, and infantile diseases, wherein such symptoms are found remarkably conspicuous or predominant.

A M E-

A
METHODICAL INTRODUCTION
TO THE
THEORY of PHYSIC.

BOOK III.

Methods of distinguishing and arranging Symptoms and
Diseases.

CHAP. I.

Symptoms distinguished into ordinary, accessory, and extraordinary.

NOW that we have had a view of the symptoms considered as independent of each other, we are next to consider them as combined together, in all the various assemblages which constitute different diseases. This part of physic is intitled Nosology.

As the immediate or actual causes of all the fifteen general symptoms are reducible either to intenseness, remissness, irregularity, or suspension of motion, in the nervous or vascular systems, it necessarily follows, that certain assemblages of these symptoms will generally run together, and afflict the body in combination.

Thus, for instance, excessive heat, violent thirst, and inability to sleep, may all spring from one source; namely, intenseness of motion in the vascular system; and therefore we shall very often meet with an assemblage of these symptoms.

If this excessive heat, and the other two symptoms, do not soon subside, there will be an accession of distress, and more symptoms will be added, particularly sickness, loss of strength, difficulty of breathing, pain and delirium; and if these all persist, so that from the continued increase of heat, and violent agitation of the fluids, the secretions shall be disturbed and perverted, the healthy crasis of the blood destroyed, and gross particles be forced into cavities destined for transmitting only those which are most subtile; and also that the

pores of the arteries allow the contained fluids to transfuse, then we shall see a number of additional symptoms and appearances, such as spasms, perpetual dosing, insensibility, eruptions on the skin, &c. This assemblage here mentioned comprehends those symptoms which we often meet with in fevers, and includes both the ordinary symptoms which are essential to the disease, and the accessory, which will naturally succeed, if the causes which first produced the fever continue to prevail, because all of them flow from similar changes in the animal motions.

But besides the train of symptoms above mentioned, which may be all traced to the same sources, we sometimes meet with unusual, or extraordinary symptoms, that cannot be so accounted for; as for instance, vomiting, or purging, which may arise independent of the actual causes of the fever: hence the necessity for distinguishing symptoms into ordinary, accessory, and extraordinary.

Ordinary symptoms are those which are essential to the disease, and form its distinguishing characteristics, whereby we know that disease from every other species.

Accessory symptoms are such as naturally supervene if the same efficient causes continue in force, necessarily creating an increase of distress and danger: these accessory symptoms may in good measure be foreseen, by recollecting the theories of the general symptoms, and calling to mind those changes in the state of the animal motions which give rise to them.

But as to the extraordinary symptoms which are not so necessarily connected with the essential and distinguishing symptoms, and which either may or may not happen, it is not to be expected that we can foresee them.

These distinctions, and this method of arranging the symptoms, are not only necessary for enabling us to describe diseases, but they are also of use in forming indications for the method of treatment. For example, a patient in a fever, among other symptoms which are
essential

essential to this disease, is particularly distressed by inability to sleep, and remarkably anxious to be relieved from this complaint: now, this symptom, as flowing from the same source with all the others, cannot be removed unless they also give way; and therefore we should act in vain if we gave opium in order to procure sleep, and did not rather take such measures, and pursue such methods as would calm the intenseness of motion, and take off the spasmodic constriction, which give rise to the other symptoms as well as to the restlessness; but if this patient happened to be seized with vomiting, which is an extraordinary symptom, then we might attempt to give relief without regarding the other symptoms, or thinking of their general sources.

Thus we see, that the ordinary and the accessory symptoms are all to be treated as one connected group, whereas the extraordinary may often be regarded singly, and without attending to the general causes of the disease.

C H A P. II.

Diseases arranged according to the Systematic Method, into Classes, Orders, Genera, and Species.

THE diseases, or different combinations of symptoms, which have been already observed, and described by medical writers, are so numerous, that unless they be arranged in such manner as to bring together those that agree in the greatest number of circumstances, and require nearly similar methods of cure, we shall never be able to retain their descriptions, nor remember how they are to be treated.

Different writers have adopted different schemes; but, as appears to us, the most useful and satisfactory of all, is that which was recommended by Sydenham.

By this method, the histories of diseases, like the subjects of natural history, are arranged into classes, orders, genera, and species.

The classes are marked by certain symptoms and circumstances, which are common to each; the orders all agree in having the same

marks with the class to which they belong, together with some additional ones, which are peculiar to the order: the genera have all the marks and circumstances of the class and order; and, besides, have some which distinguish the genus; and the species have all the marks and tokens of class, order, and genus; with the still further addition of symptoms or circumstances, which give the specific character.

Four schemes of arrangement, upon this systematic plan, have been already published, by as many celebrated authors, namely, Sauvages, Linnæus, Vogel, and Cullen; and each of them somewhat different.

A fault common to the three first is, that they have made too many genera, and have classed with diseases not only many species of simple morbid affection, or mere symptoms, but also a number of complaints which are not accompanied with any distress or inability, and which at most can only be considered as blemishes or deformities.

This is more especially true of Vogel and Sauvages, the last of whom makes an extravagant number of distinctions, and for the most part considers that as a species which ought rather to be called a Variety; his *Nosologia Methodica* is nevertheless a work of incredible labour, and infinite merit, and such as ought to be in the hands of every practitioner, because it may be turned to as to a lexicon for a particular description of the cases which actually occur, a thing that we may in vain search for in most of the books which pretend to give histories of diseases.

The four schemes above mentioned, (which are published together in one volume by Dr. Cullen) under the title of "*Synopsis Nosologiæ Methodicæ*," are the foundation of that which is to follow, wherein we have endeavoured to avoid their errors; but how far we have succeeded, must be left to the determination of the judicious and candid.

All the diseases to which the human body is liable, shall be divided into four classes.

I. Uni-

- I. Universal diseases.
- II. Local diseases.
- III. Sexual diseases.
- IV. Infantile diseases.

Each of these classes shall be distinguished into orders; the orders into genera; the genera into species; and when such minuteness appears to be of real use, the species into varieties, according to the circumstances which vary the state or appearance of the disease.

By universal diseases are meant all those which are not only common to every age and sex, but wherein there is also such an assemblage of some of the fifteen general symptoms, that they predominate above the other partial or local symptoms, and form the principal part of the distress; thus, a fever and the epilepsy are universal diseases, because they seize not only persons of all ages and sexes, but are also made up of the general symptoms.

By local or partial diseases are to be understood all those less alarming and less distressing distempers; which, though they always include certain degrees or proportions of some of the fifteen general symptoms, yet the predominant symptom, or most conspicuous part of the disease consists in the disorder of a particular organ or part of the body; as, for instance, a cough; or a looseness, are only to be considered as partial or local diseases, provided they be not accompanied with such degrees of pain, weakness, sickness, &c. as shall obscure the particular disorder in the action or excretion.

In short, every disease wherein the general symptoms (treated of in Book II. Chap. IV. to XVIII.) are observed to prevail, is to be classed with the universal diseases; and all those wherein any of the local symptoms (treated of in Chap. XXI.) shall predominate, are to be classed with the local diseases.

The third and fourth classes contain diseases which might be included in the first and second, if it were not for many circumstances

which are peculiar, and which, for the most part, demand particular methods of treatment; for these reasons, it will be of greater use to practitioners to class the sexual and the infantile diseases by themselves than mix them, as the four authors above-mentioned have done with the universal and local.

The first class will be readily distinguished into its several orders, by calling to mind the immediate causes of the fifteen general symptoms.

Some of these depend on intenseness and irregularity of motion in the vascular system, joined indeed to disorder of the nervous system; and these are, principally, excessive heat, thirst, sickness, weakness, and restlessness; these symptoms naturally run together, or succeed each other, and when they do so, they constitute fevers, which being the most frequent of all diseases, shall be considered as the first order.

In fevers, the intenseness of motion in respect of the vascular system is evident; and it is also plain, that there is disorder of the nervous system joined to this intenseness; but as there is a set of diseases wherein we have high degrees of disturbance in the vascular system, and yet, in general, no very evident disorder of the nervous system, (at least in the commencement) it is necessary to distinguish these from fevers, and consider them as another order, under the title of inflammations.

Nearly allied to fevers and inflammations are the fluxes or preternatural discharges of the animal fluids; these discharges are either constantly preceded or attended by some of the symptoms peculiar to fevers and inflammations; and hence they are placed next in succession, as the third order of universal diseases.

In the three foregoing orders, disturbance in the vascular system is apparently the principal cause of the distress; but there are many
8 diseases

diseases wherein there is little or no apparent disorder with respect to the circulation of the gross fluids, and therefore these must be referred to the nervous system, as consisting of those symptoms which are presumed to arise from the intenseness, remissness, irregularity or suspension of the motions in this branch of the living solids.

In some of these, pain is the predominant symptom, and gives the distinguishing character; these are therefore intitled painful diseases, and make up the fourth order.

In others of these nervous diseases, spasm is the prevailing symptom; whence they are denominated spasmodic, and compose the fifth order.

The opposite to spasmodic and painful diseases are those wherein somnolency, weakness, and insensibility form the distinctions, and which depend on a diminution or privation of the powers of sense and motion: hence the sixth order includes palsies, faintings, and all the species of sleepy diseases, under the general denomination of weaknesses and privations.

As the free action of the lungs is indispensibly necessary to the enjoyment of health, and as life cannot subsist unless it continues to be performed, those diseases wherein difficulty of breathing appears to be the prevailing distress, must be considered as a seventh order, under the title of asthmatic diseases.

Those cases wherein the faculties of the mind are more especially disordered, and where delirium is the predominant symptom, independent of any febrile disturbance, shall be thrown together as the eighth order, under the denomination of mental diseases.

In all the foregoing orders, the motions of the nervous and vascular systems being evidently disturbed, the methods of treatment are chiefly to be directed to the regulation of these disordered motions; but since there are some diseases which consist in disorders of the gross fluids, and require peculiar management, different from
what

what is requisite in diseases that consist chiefly in affections of the living solids, there is a necessity for making a ninth order to comprehend them, which are termed Cachexies, or humoral diseases; these shew themselves by changes in the external habit, which is discoloured, swelled, emaciated, ulcerated, or disfigured by different species of cutaneous foulness.

So much for the first class, and its subordinate orders.

The second class shall be divided into eight orders.

The first order will comprehend the diseases of the different mental faculties, memory, imagination, and judgment.

The second will include those disorders which affect the different external senses, seeing, hearing, tasting, smelling, feeling.

The third, those of the different appetites.

The fourth, those of the different secretions and excretions.

The fifth, those which disturb the different actions of swallowing, speaking, breathing, walking.

The sixth order shall contain all those which affect the form and appearance of the external habit, without being accompanied with notable degrees of general inability or morbid distress, and which are therefore not included in the ninth order of universal diseases.

The seventh order shall contain the diseases which consist in the dislocation of different organic parts, including all the species of herniæ, prolapsus and luxation.

And the eighth, those which consist in the solution of continuity, or in the destruction of texture, whether of the soft or hard parts.

The third class, under the title of Sexual Diseases, shall contain all those which depend either on the different structure of the organs of generation, or on the particular circumstances which are peculiar to each sex, and may be divided into four orders:

I. Gene-

- | | | |
|--------------|---|--------------------------------|
| I. General | } | Diseases, peculiar to males. |
| II. Local | | |
| III. General | } | Diseases, peculiar to females. |
| IV. Local | | |

The diseases which are peculiar to men are but few, and those chiefly local; but the diseases peculiar to the female sex are pretty numerous; such of them as are to be deemed general, are combinations of the fifteen general symptoms, and proceed from disorders respecting menstruation, pregnancy, parturition, and nursing; the local diseases of girls and women consist in disorders of the ovaria, uterus, vagina, and os externum.

The fourth class, under the title of Infantile Diseases, will contain those which are only met with in children until they are past teething, and shall also be distinguished into general and local.

By this scheme of arrangement, we may include every species of disease that can require the aid of either physician, surgeon, or accoucheur, as will appear from the following table:

GENERAL TABLE OF DISEASES.

A disease is an assemblage of morbid affections; or, in other words, a compound of distressing sensations, or of inability to exercise the natural functions, oftentimes accompanied with evident disorder of particular organs or parts of the body.

Diseases are divided into four classes:

CLASS I.

UNIVERSAL DISEASES.

In these, some one or more of the fifteen general symptoms predominate throughout the whole or greatest part of the disease; it consists of nine orders:

T

Order

- Order I. *Fevers*. The distinguishing symptoms are excessive heat, thirst, loss of appetite, weakness, and inability to sleep.
- Order II. *Inflammations*. The distinguishing symptoms are, fixed pain, excessive heat, thirst, and inability to sleep; when the part where the inflammation is seated can be seen, there is redness and swelling.
- Order III. *Fluxes*. In these there is a preternatural discharge either of blood or of some secreted fluid, accompanied with weakness, loss of appetite, and sometimes pain.
- Order IV. *Painful Diseases*. In these there is acute pain, without the distinguishing circumstances and signs of a true inflammation, and without a settled fever or preternatural discharge.
- Order V. *Spasmodic Diseases*. The distinguishing symptom is spasm, accompanied sometimes with pain and sometimes with insensibility.
- Order VI. *Weaknesses and Privations*. The distinguishing symptoms are, somnolency, loss of strength, and insensibility.
- Order VII. *Asthmatic Diseases*. In these the distinguishing symptom is difficulty of breathing.
- Order VIII. *Mental Diseases*. In these the memory, imagination, and judgment, are all confused and perverted, without the distinguishing signs of fever or inflammation.
- Order IX. *Cachexies, or Humoral Diseases*. In these either wasting or tumefaction of the whole or different parts of the body, cutaneous eruption, discolouring or ulceration, are attended with weakness, loss of appetite, pain, or some other general symptom.

CLASS II.

LOCAL DISEASES.

In these, some one or more of the local symptoms predominate throughout the whole or greatest part of the disease; it consists of eight orders:

- Order I. *Diseases of particular Internal Senses.* In these, either the memory, imagination, or judgment, is impaired, depraved, or abolished.
- Order II. *Diseases of particular External Senses.* In these, either the sight, hearing, smell, taste, or sense of touching, is rendered too acute, depraved, impaired, or abolished.
- Order III. *Diseases of particular Appetites.* In these, the desires for food or venery are either too keen, depraved, impaired, or abolished.
- Order IV. *Diseases of particular Secretions and Excretions.* In these there is either a preternatural increase or suppression of some particular secretion or natural discharge.
- Order V. *Diseases of particular Instruments of Motion;* impeding the different actions of swallowing, speaking, breathing, walking, &c.
- Order VI. *External or superficial Diseases,* which shew themselves in swellings, wasting, discolouring, or cutaneous eruption, without predominant degrees of sickness, weakness, or other general symptom.
- Order VII. *Dislocations of different Organic Parts,* which slip or fall, or are forced from their natural situations and connections.
- Order VIII. *Solutions of Continuity, and Destruction of Texture,* in either the soft or hard parts, whether by external violence or from internal causes.

CLASS III.

SEXUAL DISEASES.

The distinctions of this class are taken either from local disorders depending on the different structure of the organs which mark the sexes, or on circumstances that are peculiar to each; it consists of four orders:

- Order I. *General Diseases peculiar only to the Male Sex.* These are assemblages of general symptoms, arising from disorders which can only take place in the male sex.
- Order II. *Local Diseases peculiar only to the Male Sex.* These consist of local complaints arising from disorders of the organs of generation, proper to males.
- Order III. *General Diseases peculiar to the Female Sex.* These are assemblages of general symptoms, arising from disorders which can only take place in girls or women.
- Order IV. *Local Diseases peculiar to the Female Sex.* These consist of local disorders in the organs of generation proper to women.

CLASS IV.

INFANTILE DISEASES.

These are distinguished by symptoms and appearances which do not occur but during the infant state; it consists of two orders:

- Order I. *General Diseases peculiar to Infants.* These are assemblages of general symptoms, arising from circumstances peculiar to children before and during the time of dentition.
- Order II. *Local Diseases peculiar to Infants.* These consist of morbid appearances and local symptoms, which are only observed in infants newly born, or within the period of teething.

A
METHODOICAL INTRODUCTION
TO THE
THEORY of PHYSIC.

B O O K IV.

Theories of the several Orders of Diseases, and
Division into Genera.

C H A P. I.

Of Fevers in general, their Rise and Progress.

HAVING thus laid down the general scheme for arranging the histories of diseases, let us now proceed to explain the nature of the several orders, and divide them into genera, so that when we come to the practical part, there may be nothing to engage the reader's attention, save pure descriptions of the different species, and the methods of treatment, free from all theoretic disquisition.

Fevers being the most frequent of all diseases, are properly set down as the first order.

Fevers are not only the most frequent of all diseases, but they are also the most complex; for in the most simple species that we shall meet with, there is a combination at least of four, if not five, of the general symptoms.

As

As these symptoms are not always the same in every species of fever, it necessarily follows, that, in giving a general idea of fevers, we must be supposed to describe those of the more regular and less complicated sort.

The symptoms of a fever sometimes invade by degrees, and we perceive the growing distemper come on, day after day, until, at length, the whole frame shall be so disordered, as to render the person affected incapable of exercising the natural powers of mind and body; while at other times the disease shall make its attack so suddenly, and with such violence, as to throw the patient down all at once.

When a fever comes on gradually, the first complaints are mostly the following; languor, weakness, and a general weariness, with soreness of the flesh, such as people feel after severe exercise or labour; pain likewise, and heaviness of the head, loss of appetite or nausea, with clamminess of the mouth; then, after some time, come on excessive heat, violent thirst, and inability to sleep, perhaps without any previous sensation of excessive cold, or with only slight and transitory shiverings.

But when the fever attacks suddenly, it always begins with an uneasy sensation of excessive cold, accompanied with weakness and loss of appetite; frequently the cold is attended with rigor or shivering, with oppression about the præcordia, and with nausea or vomiting.

If the reader will but call to mind what was said when we endeavoured to investigate the nature of the different species of simple morbid affection, he will readily understand that this sensation of excessive cold, and the other symptoms which necessarily attend it, must soon be succeeded by excessive heat, and a train of other concomitant symptoms: for it was then shewn, that the sensation of excessive cold arises from a spasmodic constriction which
6
causes

causes an interruption in the circulation through the extreme parts of the vascular system, and throws a load of fluids in upon the center. But as this interruption cannot possibly subsist long without putting an end to life, nature immediately endeavours to restore freedom, and put the stagnating fluids again in motion; hence the heart, which is irritated by the unusual load of blood thrown back upon it, makes more numerous and stronger contractions, drives on the general mass of fluids through the open part of the vascular system with rapidity, violence, and irregularity, in consequence of which the sensation of excessive cold is changed into that of excessive heat, accompanied sometimes with pain in different places, but always with thirst and restlessness.

Thus we see, that in a fever which comes on suddenly there is a successive train of at least six of the general symptoms, namely, excessive cold, which soon changes to excessive heat, weakness, loss of appetite, thirst, and inability to sleep.

As these are the ordinary or essential symptoms, and met with in the most simple species of fever, they are to be held as the distinguishing signs of this order of diseases; and may enable us to give this general definition, that a fever is a combination of excessive heat, thirst, loss of appetite, weakness, and inability to sleep.

The more complex species of fevers are accompanied even from the very first attack, with a greater number and variety of symptoms, such as vomiting, violent pain in different places, or perhaps stupor and delirium; but these we shall take no notice of at present, since all that we now purpose is to give a clear idea of fevers in general.

Let us now endeavour to trace the progress of these symptoms, which are thus essential to a regular fever.

It is sufficiently evident, that the disorder here arises either from an irritation immediately communicated, and acting on the heart and
arterial

arterial system; or, from a spasmodic constriction, which first causes a remissness or interruption in the circulation through the vessels at the circumference, and then an irregularity and intenseness of motion.

The acrid matters which are capable of raising this irritation are of various kinds, but if they do not pass beyond the common mass of gross fluids contained in the vascular system, so as to affect the nerves, and through them produce some degree of spasmodic constriction, these morbid matters will not then give rise to a fever of any long duration; for the acrid particles in those cases will either be assimilated in a short time, so as to cease from making any unusual impression on the living solids, or they will pass off along with some of the excrementitious humours.

Therefore, in fevers of any considerable continuance, we may always conclude that there is not only an irritation of the vascular system, causing irregularity and intenseness of motion, but that there is also at the same time some degree of spasmodic constriction, straitening the diameters of the vessels at the circumference, and forming an obstacle to the passage of the fluids, which ought to flow freely and equably through them.

If this spasmodic constriction speedily gives way, the freedom and equability of the circulation will be soon restored; the pores in the membranes which line the mouth, and on the surface of the body, being set open, the tongue and skin will grow moist and soft, and a sweat breaking out, together with a plentiful discharge of urine, will carry off the heat and thirst; sleep will be restored; the appetite will return; and no complaint, excepting some degree of weakness, will remain.

But if the spasmodic constriction continues, the circulation cannot possibly be carried on with either freedom or equability; the secretions will be perverted, and the febrile contest between the force exerted from the center, and the resistance made from the circumference,

ference, being thus kept up, the essential symptoms will not only increase in violence, and grow more distressing, but they will soon be followed by others which may be held as accessory, such as violent pain, great oppression, difficulty of breathing, and delirium; and if the irritation still continues, and the stricture does not give way, these symptoms already mentioned as essential and accessory will be succeeded by such as are still more destructive and alarming; a coma, for instance, or perpetual dosing to sleep, spasms, insensibility, cold sweats, and in the end death, unless it should so happen that things take a favourable turn before the texture of the vessels in such organs as are absolutely necessary for maintaining life comes to be destroyed by the violence, rapidity and sharpness of the circulating fluids; and unless the offensive matters which keep up the irritation and constriction shall either be subdued or assimilated, or be discharged and thrown out from the circulation by hæmorrhage, sweat, stool, urine, expectoration, cutaneous eruption, or critical abscess.

In tracing the progress of a fever, we may observe that there are two remarkable stages; first, the cold fit, which begins the attack, and then the heat which necessarily succeeds it. The succession of these, and the solution or crisis, make up what is called the period of a fever, which period is of different duration in different fevers.

In some fevers there is but one period; in others there are several; and these successive attacks come on at different intervals, attended with different appearances, which enable us to distinguish the order of fevers into genera.

But before we go into these distinctions, it will be proper to inquire concerning the general causes of fevers; for if we can but once obtain a true notion of what creates all the distress and disorder, we shall then be in a fair way of knowing what to administer as the most successful means of relief.

C H A P. II.

Of the general Causes of Fevers.

WE may venture to lay it down, that the actual or immediate causes of a fever, such as hath been just now described, are an intenseness of motion, exerted from the center of the vascular system, and a preternatural degree of straitness in the vessels, making resistance from the circumference.

The spasmodic constriction, which lessens the diameters of the vessels at the circumference, and hinders the free and equable passage of the fluids, is evident before the excessive heat comes on, from the languor and oppression, paleness of the cheeks and lips, coldness and dryness of the skin, and from the lividity of the extremities, where, in many instances, the blood plainly appears to stagnate: as also afterwards, when the heat becomes distressing, it is plain that the constriction has not given way from the dryness of the skin, violent thirst, and transparent urine, made only in small quantities; from the costiveness; the drying up of issues, or other running-sores; and from a continuance of the oppressive weight or anxiety.

The intenseness of motion in the vascular system is sufficiently evident from the increased heat, and from the pulse, which in the beginning of a fever is always found quicker, and for the most part much stronger than in the natural and healthy state, when the circulation is carried on with freedom and moderation.

The immediate cause of this intenseness is an irritation of the heart and vascular system, from the application of somewhat that stimulates them to more frequent and stronger contractions; but as to the cause of the spasmodic constriction which keeps up the unusual degree of resistance at the circumference, we must look for the
source

source of it in the nervous system, since it is very well proved, that it does not take its rise from lentor or viscosity of blood, nor indeed immediately from any thing contained in the vascular system. Therefore, though the intenseness of motion in the vascular system be so evident from the increase of heat, and from the pulse; and though this intenseness seems to comprehend the whole of the fever; which, if we were to look no further, might be held as a disorder merely of the vascular system, independent of the nervous; yet, when we consider the nature of spasmodic constriction, arising from an affection of the nerves, we immediately understand that fevers consist in the disorder of both systems: at least all fevers whose periods are of any considerable duration or violence. As to the slighter and more transitory feverish attacks, such as frequently ensue after a debauch, or from too violent exercise, or a slight cold, they appear to arise from nothing but mere irritation of the vascular system alone, exclusive of any nervous disorder; and for the most part cease within the space of two or three days, being attended with nothing more than the essential or ordinary symptoms, and even these in slight degrees.

But it is to be observed, with respect to these two conjunct causes, that sometimes the one predominates, and sometimes the other; that is, there is sometimes more of the disorder owing to intenseness of motion, or increase of force and velocity in the circulating fluids, than is owing to nervous affection; and, on the other hand, in some fevers the symptoms arise more from nervous affection than they do from increase of force and velocity.

In cases where the fever depends most on the increase of force and velocity, the pulse is quick, full and strong, the inflammatory heat, thirst, and dryness, very distressing.

In such as depend most on nervous affection, the pulse is rather weak, small, and depressed; the heat, thirst, and dryness not so

evident, nor distressing; but the nausea, oppression, and weakness, very remarkable.

Having now established the immediate or actual causes of a fever, let us go on to inquire into the remote or possible causes.

These may be various, but the most powerful are reducible to the following heads: cold; infectious miasmata; passions of the mind; retention of excrementitious, or other offensive matters in the stomach, intestines, and other receptacles.

The manifest source of the greatest part of fevers, according to Sydenham, is, either that a person has diminished his clothing too soon, or imprudently exposed his body to cold, after having been heated by violent exercise; and he was of opinion, that more people were destroyed by these means than by plague, sword, and famine, take them all together.

The sudden application of cold must necessarily constrict the pores on the surface of the body, and hinder the dissipation of those effete, and superabundant particles of fluid that ought to pass off this way; hence these being driven back, and retained in the general mass, will be exceedingly apt to produce combinations among the insensible particles, which in time may come to disorder the motions of the living solids.

If the organs of secretion did not mutually assist and labour for each other, a stoppage of perspiration could scarcely ever fail of producing a fever, or some other disease; but happily things are so ordered, that, for the most part, amends are made for the deficiency of discharge from the skin by the increase of urine, or evacuation by stool.

It is sufficiently obvious, that sudden transitions from heat and moisture in the atmosphere, to cold and dryness, must be much more apt to check perspiration than when the change is more gradual, and
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less contrariety in the circumstances attending it: and hence the frequency of people's falling into fevers, in consequence of their going suddenly from close rooms, heated with crouds, into the cold and open air.

Whether there be such things as frigorific particles, which, abounding in a cold atmosphere, are taken into the body, and lay a foundation for diseases, is more than we shall pretend to determine; some ingenious men have thought that there are such: but, though the existence of these may admit of dispute, yet there is no doubt to be made of the reality of what are usually termed Miasmata; certain particles which float in the atmosphere, and being received into the body, frequently prove the source of fevers, and some other diseases. No body pretends to describe these miasmata, or to say what they are like, our ideas being imperfect of the ways in which they are generated. Some kinds of them seem to arise from substances in a state of putrefaction; others from crouds of people being pent up in close places; others again are of a specific nature, and only have the power of producing certain species of diseases; and what is extremely remarkable, that specific kind, only once in the same subject; it appearing that the fluids are incapable of being again disturbed or infected by the same species of morbid matter.

Certain passions of the mind, particularly grief and fear, have such an effect as to check perspiration, prevent the secretions, and hinder the passing off of superfluous or excrementitious matters; hence these passions act in the same way as cold does when applied suddenly, are accompanied with the very same sensations and appearances; and, by destroying the healthy crasis of the animal fluids, frequently prove the source of fevers.

The retention also of acrid or excrementitious matters, particularly in the stomach or intestines, may produce similar effects: worms likewise, and the different species of saburra, may not only stimulate

the nerves in these very sensible membranous parts, but very often the offensive fluid matters enter the circulation, and either immediately irritate the heart and arterial system, producing intenseness of motion and slight fever; or, passing farther, at length come to affect even the nervous system, so as to bring on spasmodic constriction, and thus prove the source of a true fever, of longer duration, and accompanied with a greater number and variety of symptoms.

The suffering of issues to close up, the drying of old ulcers, and other cutaneous foulness, by the imprudent application of astringents, or other repellent substances, unless great care be taken to substitute some other discharge, seldom fail to lay the foundation of a fever, or some other disease; and so does the sudden change of climate, or general habit and course of living: these then are the principal sources and antecedents, or what may be termed the remote or possible causes of a fever, which however are not by any means to be understood as producing fevers in every person where they happen to have place, but only in such as have that peculiar, though inexplicable, disposition of body, which favours the action of the morbid matter. The knowledge, therefore, of these possible causes has but little to do in forming the indications of cure; it may indeed be of use in shewing how to avoid or prevent a fever, but when we attempt to cure one we must always consider the actual causes.

Hence it will appear, that as there can be no termination of the fever while the irritation in the vascular system keeps up, nor while the spasmodic constriction continues to straiten the extremities of the finer canals, the general indications of cure must be directed to the removal of whatever stimulates, and to the rendering of the circulation in general equable and free; but then the means for accomplishing these ends will require to be varied, according to the particular species of the fever.

C H A P. III.

Division of Fevers into Genera.

THOSE slight fevers which consist of only one period, and terminate in a day or two, either from the assimilation of the irritating matters, or from the easy yielding of the spasmodic constriction, are termed *Ephemeræ*, as being supposed to run through their whole course in the space of twenty-four hours; but when the morbid matter is of such a nature, that it will neither assimilate with the fluids, nor separate, and cast off in this easy manner, then the spasmodic constriction will continue, notwithstanding the repeated efforts of the heart, and the febrile paroxysm will be protracted beyond the space of one or two days, and will run on for various lengths of time, either till death ensues from a destruction of the natural crasis of the blood, and texture of the living solids, or until the spasmodic constriction gives way, and again allows the fluids to circulate with freedom and equability.

This fever, which thus runs on without intermission, or even evident remission, for a number of days or weeks, is distinguished by the name of a continued, or continual fever, and constitutes the first genus.

Some of the systematic writers consider the *ephemera* as a distinct genus, but improperly, it being only the slightest degree of continual fever.

Continued fevers are distinguished into species, from the different states of the fluids, and other attendant circumstances, which will be particularly pointed out when we come to the practical part.

But there are fevers wherein the spasmodic constriction evidently gives way in a few hours, and seems to allow the morbid matter, which in such cases must be capable of easy separation, to pass off by different outlets, and yet the noxious particles do not seem to be to-

tally expelled, but leave a certain fomes behind, which lurks for different lengths of time, till being again rendered capable of affecting the nervous system, it brings on a new spasmodic constriction; whence a new attack of the fever, beginning as before, with excessive cold, shivering, sickness, and oppression, and succeeded by excessive heat, thirst, pain, and restlessness, which terminate by a relaxation of the constricted pores and vessels, giving passage to a plentiful sweat, and discharge of loaded urine. This genus is termed Intermittent, and is distinguished into different species, according to the returns of the paroxysm, and lengths of the interval between the several periods of the fever.

But there is another, and a third genus, wherein the morbid matter is found to be separable, but not so as to leave the body perfectly free, as the intermittents do from the febrile symptoms; for here the separation appears to be but partial, as the distressing symptoms only remit or abate of their violence; for the fever does not intirely cease as in the intermittent, and therefore this genus is termed the Remittent, and is distinguishable into species, according to different symptoms and circumstances, which gives them a distinct character.

The fourth genus of fever, which is termed the Eruptive, has somewhat in common with the remittent; for, whatever it be that raises the febrile symptoms, so soon as it is forced out, either through the pores in the sides of the arteries, or through their open extremities, and is lodged among the inert solids in the cellular part of the skin, the irritation and spasmodic constriction cease or abate; of course likewise all the distressing symptoms depending thereon; and this cessation or abatement will be in proportion to the separation and expulsion of the noxious particles.

Eruptive fevers are distinguishable into species, from the different appearance and progress of the eruption, which denominates them, small-pox, measles, scarlet fever, miliary fever, &c.

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The fifth and last genus of fever is the hectic; in this the nervous system appears to be much less affected than in any of the others, and the disorder seems owing chiefly to the agitation of the blood, and irritation of the vascular system, from acrid or stimulating matters, which are absorbed from places where these are produced or accumulated, and being carried into the mass of circulating fluids, raise transitory fevers from time to time, that after a few hours either remit of their violence, or, like the intermittents, leave the body perfectly free for a while. Hence it happens that these fevers are not so suddenly destructive of life as those of the other genera, wherein the nervous system is always so much more disordered; but then, unless the sources which supply fuel, as we may term it, for kindling up the fever, can be effectually cut off or removed, the hectic constantly, in the end, proves mortal.

Hectic fevers, like the other five genera, are distinguishable into different species, which will be described in the proper place.

C H A P. IV.

Of the Crisis in Fevers, and Doctrine of Critical Days.

THE introduction of the word Crisis into the medical language seems to have been owing to the notion, that diseases are certain injurious agents, which take possession of the human body with a view to afflict or destroy it; but that Nature, ever anxious for the body's preservation, uses every effort to subdue or expel the enemy; hence necessarily arises a contest between Nature and the disease, which, like every other dispute, must at length come to a period, and be determined or adjudged in favour of one of the contending parties: thus the word Crisis was brought in, and used by the Greek writers to signify this supposed decision or judgment, and is still continued to express the turn of the fever; when, after hav-

ing arrived at its highest pitch, if death does not take place, the symptoms first abate of their violence, then altogether subside, and health gradually returns.

As the crisis approaches, there appears to be an unusual struggle; the morbid matter seeming to grow more abundant, and to be more generally diffused, when the fever has been of some days continuance, than it was at the beginning.

At the commencement of fevers, and for some days afterwards, the morbid matter was supposed, by the first improvers of physic, to be in a crude state; but as the disease went on, they conceived the notion of this matter's being ripened or concocted, which was the term used; at length, when the time of the crisis arrived, the offensive particles were rendered capable of separation, and being discharged, (partly by the pores of the skin, partly by the urinary passages, and other outlets) left the body free from disease: hence they deemed that practice improper and hazardous which endeavoured to discharge or expel, while things were supposed to be in a state of crudity; but held it as a maxim, that the physician was to wait until the concoction was perfect, and the morbid matter rendered moveable, and ready to be thrown off.

This idea of crudity and concoction, with regard to the morbid matter, was carried too far when they extended it to every species of fever, because there are many which may be prevented from getting to any dangerous height, and may be cut short by proper treatment; while others, which are allowed to run out their whole course, are found to subside without any evident critical discharge.

With respect indeed to eruptive fevers, and several of the continued, intermittent, and remittent kind, the doctrine appears to hold good, though some physicians of very great note have inclined to banish the notions of crudity, concoction, and morbid matter altogether,

gether, looking on fevers as mere affections of the nervous system, independent of any thing morbid in the common mass of gross fluids.

The ancient Greek physicians, full of the ideas which have been already mentioned concerning the impropriety and danger of attempting to rid the body of morbid matter while in a crude state, appear to have interfered but little in cases of fever, trusting the concoction almost intirely to Nature; hence they had more time and better opportunities for observing the progress of the disease than most part of modern practitioners, who are almost perpetually either doing or giving something to the patient.

These ancients, who thus gave themselves little other employment than observing the genuine efforts of Nature, in first preparing, then separating, and, lastly, discharging the morbid matter, either found out, or at least thought they discovered, that the crisis in continued fevers happened on certain days, reckoning from the first seizure.

These days were said to be the 3d, 5th, 7th, 9th, 11th, 14th, 17th, and 21st. If the fever did not run beyond three weeks; but if it exceeded that period, then four and three days were to be reckoned alternately on to the 42d day, or to the end of six weeks.

Of these there were some days held to be more eminently critical than others, particularly the 14th, and next to that the 7th.

Beside the days on which beneficial changes were expected to happen, there are others which were reckoned indicatory of what was to fall out in the succeeding critical day: thus, the fourth is an index to the seventh, and the eleventh to the fourteenth.

At first sight there appears to be a good deal of superstitious regard to certain numbers in this matter, and so it was judged by some of the ancients, as may be seen by looking into Celsus, where he criticises on this doctrine, and its founder, Hippocrates.

The writings which pass under the name of this father of physic are evidently the work of different hands, and have different degrees of merit; and, with respect to the doctrine of critical days, it must be confessed that they do not lay down a positive scheme as to those which are most to be regarded: and this the reader may be satisfied of, by comparing the several passages where the critical days are mentioned; indeed, the celebrated Vienna professor, De Haen, charges these disagreements to the transcribers of the manuscript copies, who were apt to mistake the Greek letters which were used as numerals, and thus have confused the doctrine; for, notwithstanding this want of precision, he, and many other eminent and experienced physicians, have declared themselves in favour of the critical days, and allege that it is very necessary to watch the appearances particularly on them, and to be cautious of bleeding, or giving any thing that may tend to disturb the crisis, by bringing on other discharges than those which Nature seems to promote.

In the southern parts of Europe, and in Asia Minor, where the first physicians practised, there is a degree of regularity with respect to the progress of fevers, which we do not meet with in these countries; so that their observations may have been just, though we do not always find them correspond with those which are made by practitioners resident in a colder and more variable climate.

C H A P. V.

General Description and Theory of Inflammations.

INFLAMMATIONS are so nearly allied to fevers, that they have often been included in the same order, but not with propriety, as there are certain circumstances peculiar to an inflammation which give it a distinct character different from a fever, and every other species of disease.

An inflammation is sufficiently apparent, when the part which is the seat of it can be seen; but when fixed internally, and it seizes on any of the contents of the three larger cavities, the signs are often equivocal.

The theories of inflammation, which of late have been generally taught, are those of Boerhaave and Hoffman.

According to Boerhaave, the disease has its seat in the extremities of the finer arteries, and arises from an obstruction either when the diameter of the vessels is lessened, or when the particles of the circulating fluid become too large for the canals, through which they ought to pass freely.

In his Aphorisms (at Sect. 375, 6, and 7) there is an enumeration of all the different causes of this obstruction, either when supposed to depend on the lessening of the arterial diameter, or upon increasing the size of the globules: but beside all these causes, Boerhaave taught that the obstruction may happen "ab errore loci," as he termed it, namely, from globules getting, as it were, by mistake into vessels not having diameters sufficient to transmit them.

When an obstruction was once formed, whether from error of place, or any other cause, it was believed that the succeeding fluid would urge on with additional force, in order to free the passage;

in consequence of which, the blood would accumulate, the minute arteries would be distended, their fibres would be distracted, and their cavities filled with larger globules than in the natural state; while at the same time these globules would be violently agitated, and rubbed against each other, and against the sides of the vessels: hence all the distinguishing symptoms and marks of inflammation; namely, swelling, pain, redness, and heat.

The theory which is laid down by Hoffman does not differ in the main from that of his illustrious rival; for he also supposes, that there is a stasis or stagnation of blood in the finer arteries, arising from a spasmodic constriction of the vessels, independent of any alteration with respect to the consistence of the fluids.

But with all due deference to those very respectable names, may it not be allowed to inquire, whether the actual or immediate causes of inflammation be not diametrically opposite to what they have laid down, and whether the blood, so far from being stopped or obstructed in its passage through the arteries of an inflamed part, does not, on the contrary, meet with less resistance from the sides of the vessels than it ought to meet with, and flow through both arteries and veins with an increase of force and velocity.

Experiments which have been made repeatedly on living animals shew, that even though gross globules should stop the passage through the extremities of the arteries, yet the succeeding blood, so far from being urged on with unusual force to remove the obstacle, would totally desert these obstructed vessels, and flow into such as are free; for, when a ligature is made on any particular branch of an artery, the blood is observed to forsake that branch, and flow into the adjoining ones, which remain open, without creating any permanent swelling, or enlargement of the vessel between the ligature and the heart.

The same consequences follow in the human body, in all cases where the passage is totally shut up, as it is in the umbilical arte-

ries after a child is born, and in arteries which are closed up by ligature in the operation for an aneurism.

Since it is proved then, that neither the form of the vessels, which cannot be considered as conical tubes, nor the composition of the blood, whose redness does not depend on the union of fix serous globules, are favourable to the notion of obstruction; and that neither obstruction nor stasis, even allowing them to take place, would be followed by those effects and appearances which particularly distinguish an inflammation; it remains to be shewn what the changes are which give rise to this very frequent disease.

The late Dr. Whytt was among the first who had courage to call in question the theory of Boerhaave, and furnished arguments for destroying the notion that inflammations take their rise from stasis or obstruction: he has demonstrated in the most satisfactory manner, that the force of the heart and larger arteries is not sufficient to carry on the circulation throughout the circumference of the vascular system; and that unless there were an additional force, distinguished by the name of oscillatory motion, to push on the fluids in the smallest vessels, the progressive motion of the general mass would soon come to a period.

All those different things which are comprehended under the general name of stimuli, have the power, when applied, of increasing this oscillatory motion; in consequence of which, the flow of blood, or of secreted humour, through the particular parts of the system so affected, comes to be proportionally increased, according to the degree of irritation.

There cannot be a more evident or familiar proof of this power than what is observed to happen when a mote gets into the eye, and irritates the vessels of this very delicate organ: here we observe in a few minutes that the eye inflames; that is to say, it grows hot and
painful,

painful, the vessels become turgid with blood, and there is an evident flow of humours to the part affected.

The wounding of any sensible part, whether it be by puncture, incision, or laceration, the applying of caustics or acrid stimulants, as well as of fire, or things heated beyond certain degrees; all these constantly increase the oscillatory motion, and infallibly produce different degrees of inflammation.

But there is another circumstance which must be taken into the account, and that is, the resistance made by the vessels at the circumference, and throughout the whole vascular system, to the power of the heart, which is exerted from the center; for if this resistance be lessened or taken away by softening, relaxing, rupturing, or dividing the coats of the vessels, the blood is always found to make a push towards the weakened part.

Here then we have a second source of inflammation, which may be proved by observing the effects of cupping-glasses. When a cupping-glass is applied to the surface of the body, and the air either exhausted or rarefied, then so much of the power of resistance as depended on the pressure of the atmosphere is taken away from the subcutaneous vessels; immediately the blood rushes into these weak vessels, distends them, and produces an evident degree of heat, with pain, swelling, and redness; all which, however, will subside and disappear in a short time after the glass is removed, and the pressure of the atmosphere restored.

The same appearances always ensue, only more diffused, and in a less conspicuous degree, when warm water or emollient poultices are applied to any particular part.

The conclusion to be now drawn is, that there are two immediate causes of inflammation; the one consisting in an increase or excess of
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of oscillatory motion, the other in a diminution of the resisting power in the coats of particular sets of the smaller blood-vessels.

A transitory inflammation will arise from either of these causes; but if it be merely from the action of stimuli increasing the oscillatory motion, or merely from relaxation and want of due resistance, the symptoms will be but slight, and there will be no settled inflammation, which only ensues in consequence of the conjunct operation of both, when the resisting power of the vessels is diminished, and the oscillatory motion at the same time increased.

When these two causes concur, the blood will rush into the affected vessels, and be carried through them with unusual degrees of force and rapidity; from whence are easily deduced all the essential signs and symptoms attending on inflammations.

In the first place, heat must be a necessary consequence; for, let the original cause of animal heat be what it will, an increase of velocity with respect to the motion of the blood never fails to bring with it an increase of heat.

When the blood is heated beyond the natural degree, it proportionally expands and enlarges its volume; this expansion distends the affected vessels, and makes way for still larger quantities of succeeding blood, which will presently be forced into the smallest canals, and many vessels that in the natural and healthy state appear to convey nothing but pellucid lymph, will now be furcharged with blood, whence in great measure proceeds the redness inseparable from inflammations.

But it is not only the smallest arteries which are thus over-distended; for in cases of inflammation, the incipient veins are also enlarged, as any one may be convinced of by observing an eye that is inflamed; where many, perhaps the greater part of the vessels which appear so turgid, and obscure the whiteness of the eye, are veins of the tunica conjunctiva.

Seeing then that both veins and arteries, where an inflammation is settled, are thus overcharged, a swelling, tension, and hardness, must necessarily constitute part of the disease; for the arteries cannot be over-distended without a proportional enlargement of the pores in their coats, which in the natural state allow only oily and lymphatic fluids to pass; and these pores, when so enlarged, will not only allow the thinner fluids just now mentioned to transude in much larger quantities than they ought to do, but will also suffer some share of the more gross and red part of the blood to escape through these ways, whence an increase of redness and swelling. If the cellular texture of the part which happens to be inflamed is loose, yielding, and abundant, the swelling will be proportionally large and sudden.

Pain must also be a necessary symptom in cases of inflammation, on account of the distraction and tension of the living solids.

If the vessels which happen to be the seat of the inflammation be attached firmly to solid parts, or run much in strait directions, higher degrees of tension will take place; and it is always observable, the higher the degrees of tension the more severe the degrees of pain; and this is given as a reason why inflammations which are seated in the vessels of the skin, or other firm membranous parts, or in those which are bestowed on the bones, tendons, ligaments or cartilages, are always accompanied with very sharp pain, while those which affect the softer viscera and glandular parts are attended with inferior degrees of pain, and sometimes with very little.

A fever (that is to say, some of the symptoms which are essential to a fever) is likewise attendant on all cases of considerable inflammation; and this has made many of the medical writers confound the two diseases; but in the most simple species of fever there is a combination of at least four, if not five, of the general symptoms, namely, excessive heat, thirst, loss of appetite, weakness, and inability to sleep; whereas, except in the more complex and distressing species

Species of inflammation, we meet with only three of these five, namely, excessive heat, thirst, and inability to sleep; so that the two other symptoms, weakness and loss of appetite, which are chiefly affections of the nervous system, and without which there can be no lasting fever, are not to be held as essential symptoms of an inflammation.

In cases where an inflammation arises in consequence of external injuries, such as wounds, burns, contusions, fractures, or luxations, which act in a double capacity, as not only creating an intenseness of motion from irritation, but as also destroying the texture or weakening the sides of the vessels; here the local heat, pain, redness, and swelling, are evident, before we can perceive from the pulse that there is any increase with respect to the general force and velocity of the whole mass, or that the febrile symptoms of general heat, thirst, and restlessness give any distress, so that the fever here does not come on till after the inflammation has actually taken place.

But it frequently happens, that inflammations come on in consequence of a fever; for when a fever is once raised, if there happens to be any particular organ, or part of the body, where the vessels have suffered a diminution with respect to their power of resistance, or if there be any thing acrid or stimulating mixed with the blood, which happens to settle in any particular place, these weakened or irritated vessels will soon become the seat of an inflammation; because, when the general mass of fluids is beforehand put into violent motion, they will immediately rush into those vessels where irritation and want of resistance invite them.

It is sufficiently obvious how alarming and dangerous these inflammations must be that thus succeed the attack of a fever; in fact they are the immediate causes of death in many fevers, and it is with the view of preventing these supervening inflammations that, in the commencement of fevers, (at least all such as set out with a strong, full,

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and rapid pulse, and betray signs of great intenseness with respect to the motions of the vascular system) physicians endeavour, by timely and proper evacuations, so to moderate the force of the symptoms, that the nobler parts may be freed from the danger of having a load of blood thrown into their vessels during the course of the fever.

C H A P. VI.

Of the different Ways in which an Inflammation may terminate; Resolution, Exudation, Suppuration, Gangrene, Scirrhus.

WHEN an inflammation is once formed, there are five ways in which it may terminate.

The first and most desirable is termed Resolution or Discussion; the second, Exudation; the third, Suppuration or Abscess; the fourth, Gangrene; and the fifth, Scirrhus, or indolent hardness and swelling.

RESOLUTION.—If things can be so managed early in the disease, that the intenseness of oscillatory motion shall be brought down, and the vessels recover their strength, before that the fluids, which transude through the pores in the sides of the arteries into the cellular interstices, either accumulate to such a degree, or become so gross and viscid, that they can neither be taken up by the absorbents, nor be dissipated through the pores of the skin; then the inflammation will terminate by a resolution, which, when practicable, we are always to aim at, by diverting the flow of blood, allaying the intenseness of motion, strengthening and supporting the coats of the vessels, and favouring the dissipation of the accumulated fluids.

EXUDATION.—But if these ends cannot be accomplished within the proper time, and the blood continues to rush with unusual force

force into the vessels of the inflamed part, the arteries will then be distended, the pores will be enlarged more and more in consequence of the augmented heat and expansion of the fluids; and this extraordinary enlargement of the pores will give passage to a quantity of fluids, which will either be lodged in the cellular interstices, or be thrown off by exudation from the surface of the inflamed part.

The fluid which is thrown off by exudation differs considerably in colour, smell, and consistence, from blood, lymph, mucus, and every other fluid existing previous to inflammation; and these differences seem partly to arise from the enlarged dimensions of the arterial pores, and partly from the changes which the inflamed blood undergoes with respect to the combination of its insensible particles.

The vessels being thus unloaded, and relieved from the great distraction and tension of their fibres, the heat will abate, the pain will wear off, and the swelling will subside.

When an inflammation is seated in the vessels interwoven with the skin, or with any of the membranes lining the internal cavities and passages, or covering the different viscera, this discharge by exudation terminates the disease; and it is in this way that the inflammation which ensues in consequence of burns or wounds always finishes its course; the pain, heat, swelling and redness subsiding, and going off gradually, as the digestion comes on, and the purulent discharge increases: in the same manner that species of inflammation termed Erysipelas, which has its seat in the vessels of the skin, frequently terminates; numerous little pustules or vesicles being raised, discharge themselves plentifully, and unload the inflamed vessels. In like manner, when the membranes which line the nose, fauces, aspera arteria, or pulmonary vesicles, are but slightly inflamed, the disease frequently goes off by this way of exudation; as it does also in that very common disease the gonorrhoea virulenta, where the vessels of the urethra are the seat of the inflammation.

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When the matter which thus exudes and terminates the inflammation meets with a free and ready outlet, every thing does well, and health is very soon restored; but the affair will not end so happily if the purulent matter which ouzes from the membranes that line the thorax and abdomen, or which cover the different viscera contained in either cavity, is detained there; for in such cases, though the pain ceases, yet a new train of symptoms will succeed, and produce a hectic fever.

SUPPURATION or ABSCESS.—It is plain that the second way in which an inflammation may terminate, can only take place when the disease chances to be seated in vessels which run near the surface; for, when it is more deeply fixed in the substance of any viscus, or in some fleshy or glandular part, and cannot be resolved or dissolved, the quantity of fluids which transude from the pores in the arteries soon comes to be more than the absorbents can take up and carry off; in consequence of which, there is an accumulation of these transfused humours, which quickly begin to ferment, and in time acquire the power of dissolving and melting down the lamellæ, which connect the vessels and muscular fibres, as well as the adipose cells or vesicles, particularly destined for containing the fat.

In this manner is formed what the surgeons term Pus, or the matter of an abscess; the third way in which an inflammation is observed to terminate.

While an abscess is forming, and the matter collecting, some of the purulent particles will, from time to time, be absorbed; and, being carried back into the circulation, will occasion irregular shiverings, succeeded by transitory feverish fits, unless it should so happen, that as the collection of matter increases, a compact kind of cyst or bag should be formed for it, by the compression and hardening of the surrounding lamellæ of the tela cellulosa, which sometimes becomes

becomes so firm as to confine the pus, and allow of little or no absorption; in which case, neither shiverings nor successive hot fits will be perceivable, but every thing will remain quiet until the abscess either bursts, or by its enlargement comes to press upon some organ of importance.

Next to resolution or discussion, exudation is the most desirable way in which an inflammation can terminate, provided the purulent matter finds a ready outlet; but where exudation does not happen, then abscess is what we are to wish for, because the solids which are destroyed by suppuration are not what we understand by the name of living solids; for in cases of abscess (even those of large size, which occupy such parts as allow a speedy opening, and thorough discharge of the contained matter) it is observable, that after they heal up, there are seldom any permanent effects with regard to the motion, strength, or sensibility of the part which was affected, which plainly proves that there is little or no destruction of nerves or blood-vessels; for these last, notwithstanding their suffering so much from overdistension, and the enlargement of their pores in consequence of that distension, yet, as their fibres are not intirely ruptured, they soon recover themselves by their own natural elasticity; and as for the inert solids that are melted down into pus, they are very soon restored after the matter is evacuated, and the abscess healed up, by the accession of nutritious particles poured into the cellular interstices.

GANGRENE.—But when the motion of the circulating fluids through the vessels of the inflamed part is so extremely violent, or when the coats of the arteries are so unusually weak that they give way, and burst asunder, instead of only enlarging their pores to let the fluids escape into the cellular interstices, then their texture is destroyed; from the rupturing of living fibres, the pain ceases, and from the extravasation of blood, the part that before was red and shining becomes shriveled, and dark coloured or livid; the cells, which
in

in cafes of fuppuration are filled chiefly with lymphatic and oily fluids, being now loaded with blood; this blood foon begins to corrupt, lofes its bright rednefs, and the ferum, parting from the craffamentum, is forced out toward the furface, raifing up the cuticle into blifters.

In this manner comes on what is termed a Gangrene, and by confidering the progrefs, it is eafy to comprehend, that where the blood is in an acrid ftate, or where the coats of the veffels have been injured by fevere bruifes, or gradually weakened by fome preceding diftemper, there muft be much more danger of an inflammation ending in a gangrene, than in fubjects and conftitutions where there is no fuch injury, weaknefs, or acrimony.

Gangrenes indeed feldom take place except in conftitutions fuch as thofe above defcribed; and hence it is, that in old people, and in fcorbutic or dropfical habits, where the juices in general are in an acrid ftate, and the folids weak or fragile, many inflammations which arife from trifling accidents, and appear but little alarming in the beginning, fo often terminate in gangrenes and death.

SCIRRHUS.—There is ftill one way of termination left unexplained, which is always mentioned by the fystematic writers, and this is what they term Scirrhus. This takes place when an inflammation will neither difperfe in the beginning, fpend itfelf by exudation, run on to a fuppuration, and form an abfcefs, nor degenerate into a gangrene; but the pain and heat ceafing to be felt, nothing remains fave the fwelling and an inferior degree of rednefs or difcoloration.

It is chiefly in the parenchymatous viscera and glandular parts that thefe indolent fwellings are found to remain after an inflammation, for in thofe places the circulation is naturally languid, and there is frequently not a degree of heat fufficient to bring about that fermentary

tatory process, which produces a true suppuration, nor force enough to rupture the vessels and bring on a gangrene, which seldom takes place in the glandular parts, except in cases where there is an acrimonious humour, of the sharpest nature, deposited immediately on the vessels of some particular gland.

It is to be observed, however, that by far the greater number of hard indolent swellings, which are met with in practice under the name of Scirrhi, are not the consequences of inflammation, but take their rise from slow and imperceptible beginnings, are originally owing to some inexplicable fault in the fluids, and very often end in cancers.

As every part of the body has blood-vessels interwoven with its texture, if we except some of the very thinnest membranes, the cuticle, the nails, and the hairs, so, every part, excepting these, is liable to become the seat of an inflammation; but those parts which are most full of blood-vessels, exposed to external injuries, or to the action of irritating matters floating in the atmosphere, are the most subject to this disease, which must necessarily produce different kinds and degrees of distress and danger, according to the nature, use, and importance of the part which happens to be the seat of inflammation.

As to the division of this order of diseases, there is no necessity for making more than two genera; external inflammations, when the part affected being within reach, we can avail ourselves of topical applications; and internal, where the chief dependance must be on general evacuations and internal remedies.

Of each of these there are several species, and of these species many varieties, as will be shewn in the proper place.

C H A P. VII.

Theory of Fluxes, and Division into different Genera.

HAVING been so full on the theory of fevers and inflammations, we shall not be under the necessity of enlarging upon that which regards fluxes.

The blood and various secreted humours will escape from the vessels or different canals and cysts, appropriated for containing them, whenever the weight of the fluid, or the force wherewith it is urged on, shall come to be so far increased as to break through the coats of the cyst or vessel, or overcome the native power of the sphincters which constrict the orifices of the excretory ducts and natural passages; and they will likewise escape whenever the solid texture of these coats is so far impaired, or the constrictive power of these sphincters so far weakened, that there is not sufficient firmness and strength to resist the natural weight and impulse of the fluids.

Thus it appears, that there are two sources from whence preternatural and morbid discharges may take their rise: the one, from excesses respecting the parts contained; the other, from defects with regard to the parts containing.

All fluxes that are lasting, and rise to such a height as to be reckoned morbid, are derived from both sources; that is, the momentum of the fluids is increased, while the strength of the solids is diminished; so that here, as was explained with respect to inflammations, the disease is to be considered as depending on the conjunct operation of two causes.

But sometimes the more predominant of the two causes shall be increase of momentum, and at other times diminution of firmness in

the solid texture of the coats of the vessels, or want of constrictive power in the sphincters.

Such fluxes as are most owing to an increase of momentum in the circulating fluids are termed Active, while those which more evidently proceed from weakness of the sphincter, or from solution of continuity in the solid substance, are called Passive fluxes.

Very often the intenseness of motion does not extend to the circulation in general, but is restricted to particular sets of blood-vessels, or particular excretory ducts; and then it is to be considered as consisting merely on the increase of oscillatory motion in these distinct places: when this is the case, the discharge, whether it be of blood or of any secreted humour, will be moderate, and not productive of great distress or immediate danger.

But when the circulating force with respect to the whole system is increased, then the disease becomes proportionally hazardous and alarming.

All fluxes which are accompanied or produced by a general increase of the circulating force, begin, like fevers, with spasmodic constriction of the circumference of the vascular system; whence arise the symptoms of excessive cold, sickness and oppression, soon after succeeded by excessive heat, with thirst, restlessness, and very often pain.

If the discharge which ensues be sufficient to carry off the whole of the offending matter that first occasioned the spasmodic constriction, the distressing symptoms will subside in a short time, and health will be again restored; so that fluxes of this kind, as we may often observe in practice, have a salutary effect.

But if the morbid matter be not so discharged, and a quantity of it remains sufficient to keep up the irritation, not only in the vascular system at large, but likewise in the particular sets of vessels or excretory ducts, from whence the flow of blood or humours proceeds,

ceeds, then the disease will continue, and accessory symptoms come on, until at length the animal strength being totally exhausted, life must necessarily sink under the discharge.

Those discharges which are not accompanied with general intenseness of motion, (which we can always tell from the quiet pulse and absence of the distinguishing febrile symptoms) and which proceed from an increase of oscillatory motion in particular sets of vessels only, are always brought on from some stimulant or corrosive matter immediately applied, which either irritates or erodes the solid texture.

From comparing the immediate causes of fluxes with those which produce inflammations, we immediately see whence it arises, that all those which are termed Active should be preceded or accompanied by certain degrees of inflammation; and we may also understand how discharges, which at first are purely sanguineous or lymphatic, in a few days may become purulent.

The fluxes, which we consider at present as constituting the third order of universal diseases, are those which have predominant degrees of weakness, sickness, pain, or some other general symptom; for all others of a less alarming and less hazardous nature, wherein the discharge is the most conspicuous part of the disease, are to be classed along with the partial and local diseases, and will be included in the fourth order, which comprehends the diseases of particular secretions and excretions.

The order of fluxes consists of three genera; 1. Alvine-fluxes. 2. Hæmorrhages. And, 3. Humoral discharges.

To the genus of alvine-fluxes belong all those preternatural and morbid discharges which come from the alimentary canal, and which are made up of feculent and excrementitious matters, blended with different kinds of humour, and sometimes with blood.

To the genus of hæmorrhages belong all the different species of sanguineous discharges which come from the natural passages, for it is not intended to include the bleeding from wounds.

The genus of humoral discharges includes the several diseases wherein there is a preternatural flux of some of the secreted fluids; none of the species of which, however, excepting the ephidrosis or colliquative sweating, and the diabetes or profuse discharge of urine, can well be ranked with the universal diseases, but must come into the second class, under the fourth order.

C H A P. VIII.

General Theory of the painful and spasmodic Diseases, and Division into Genera.

IN the three foregoing orders, disturbance of the vascular system apparently constitutes the principal part of the disease, and therefore we have been enabled, in some measure, to explain their rise and progress; but as to the ensuing three, we can promise the reader but little satisfaction, because the diseases included therein, for the most part, consist of symptoms which are purely nervous.

In these cases of mere nervous disturbance, as the complaints often proceed from sympathy, it would be of great importance in forming the indications of cure, if we could always distinguish when a disease is idiopathic, and when it is only sympathetic; but unfortunately this is a matter which the physician is seldom able to decide.

Hoffman and Whytt are the authors who appear to have observed the sympathetic connections with the greatest attention, and therefore are to be carefully studied; the former in his "*Medicina Rationalis*," (Cap. de consensu partium nervosarum generatim, et sigillatim cum ventriculo); and the latter in the beginning of his
"Treatise

“ Treatise on nervous Diseases.” The observations of both these writers will be found of considerable use in explaining the various appearances, and in pointing out the most rational schemes of relief in the different nervous diseases, particularly the painful and the spasmodic, which are the orders next to be considered.

PAINFUL DISEASES.—In the fourth order of universal diseases, the predominant symptom is pain; but without any settled fever, remarkable discharge, evident spasm, or true inflammation: if we do not make these reserves, we shall confound many species of fever, the dysentery, the tetanus, and inflammations in general, with the headach, colic, gout, and rheumatism, and thereby render the systematic scheme of arrangement of no practical use; for the principal thing to be aimed at, is to bring those diseases which require nearly similar methods of treatment as much as possible under one point of view.

The theory of the predominant symptom, as considered in the abstract, having been already laid down, and its immediate cause explained, it only now remains to inquire into the remote causes of those diseases wherein pain forms the principal part of the distress.

Flatus and acrimony may be looked on as the chief sources of the painful diseases.

That elastic vapour or flatulent matter which is often observable in valetudinary people, seems to proceed originally from faults in the digestive process; the aerial part of the substances on which we feed being extricated during their fermentation in the alimentary canal, and not being afterwards sufficiently reduced to the state of fixed air, is often an evident cause of distress while it remains in the stomach and intestines; but how it acts, after it passes the thoracic duct, and has mixed itself with the general mass of fluids, is a point that as yet remains unexplained.

Flatus,

Flatus, while pent up in the alimentary canal, by over-distending the sensible fibres which are interwoven with the coats of the stomach and intestines, produces variety of pains, generally denominated Colic, and oftentimes spreads the disorder by sympathy to distant and seemingly unconnected organs. And, according to a vulgar notion, the aerial matter, when mixed with the fluids in circulation, proves the cause of pains, by distracting the sensible fibres in various places where it is supposed to expand itself; whence stitches, as they are usually called, and cramps.

It was formerly observed, that we must be contented to remain in ignorance as to the intimate nature of the different species of acrimony or morbid matter, which give rise to various diseases: it is in vain to pretend to describe their qualities, or to define them in any other way than according to the disease which they are severally presumed to produce. Thus we say, that there are such subtile matters as an arthritic acrimony, a rheumatic, a scorbutic, a cancerous, and a syphilitic, which are to be considered as the remote or possible causes of pain in different subjects.

That some of these kinds of morbid matter exist in the gross fluids, may be inferred from their being capable of correction and extinction by the virtues of appropriate alterative medicines; others again are thought to be so far blended with the subtile fluid of the nerves, that they are beyond the reach of any remedy that physic is as yet possessed of.

Beside flatus and acrimony, there is another occasional cause of the painful diseases, namely, calculous concretions, which are formed in different parts of the body, particularly the passages for bile and urine, where they often irritate, overdistend, or lacerate the sensible fibres, and thus create pain, not only in the places where these offensive substances are immediately applied, but also in places at some distance.

The

The retention of excrementitious humours, or of feculent matters, is also a frequent cause of different species of these diseases which are distinguished by severe pain.

The order of painful diseases may be distinguished into the following genera :

I. GOUT.—A frequent disease, remarkable for the sharp pain which fixes on the articulations, especially of the feet and hands. It is a periodical disease, but the paroxysms generally return at uncertain periods ; the fit is generally preceded by complaints of weight and sickness in the stomach ; and when at the height, the pain is accompanied with redness and swelling of the affected part, a quick pulse, and feverish heat.

II. RHEUMATISM.—Also a common disease, but not periodical ; it is usually the consequence of obstructed perspiration, and is distinguishable from the gout by the seat of the pains, which spread from the joints along the course of the muscles, and seem fixed in the fleshy substance ; the knees, hips, loins, and shoulders, are the places where rheumatic pains are most severely felt ; they are not followed by such an evident swelling and redness as arthritic pains, neither are they preceded by the complaints of the stomach, though for the most part with higher degrees of fever.

III. OSTOCOPUS.—A disease not often met with, but distinguished by pains deeply seated, as if in the middle of different bones.

IV. HEADACH.—Of which the cephalalgia, cephalæa, and hemi-crania, may be considered as species.

V. TOOTHACH.—Proceeding from different causes, which produce different species. As in like manner, the

VI. EARACH.—Otalgia.

VII. PLEU-

VII. PLEURODYNE.—Distinguished by a sharp pain in different places of the thorax, without those symptoms which are peculiar to inflammations, namely, the feverish heat, and quick strong pulse.

VIII. PAIN in the STOMACH.—Of which cardialgia, gastrodynia and pyrosis, are different species.

IX. COLIC.—Distinguished by severe pain, fixed in different places of the abdomen, accompanied with costiveness: of this there are several species.

X. LITHIASIS.—Usually termed stone or gravel; known by the seat of the pain, affecting either the region of the kidneys or bladder, and accompanied with appearances in the urine, such as blood, slime, stoney concretions or purulent matter, which serve to distinguish the disease.

XI. ISCHURIA.—Or stoppage of urine.

XII. PROCTALGIA.—Distinguished by a fixed pain in the anus, or lower part of the rectum, which, as it may proceed from different sources, produces different species of the disease.

It may be observed of the painful diseases in general, that so long as they consist of little more than mere nervous affection, (such as we presume the symptom-pain to be) and are not accompanied with any considerable or permanent degree of disturbance in the motions of the vascular system, though the distress may be very great, yet they are not found to be immediately destructive; for it is not uncommon to see persons severely afflicted with different kinds of the diseases above-mentioned, who shall survive repeated paroxysms, or even continued suffering, and notwithstanding arrive at the period of old age.

SPASMODIC DISEASES.—If it be confessed that the theory of the painful diseases is defective and obscure, the same must be allowed with respect to those of the succeeding order, wherein spasm forms the distinguishing characteristic.

For the immediate or actual causes which are presumed to excite the predominant symptom, we shall refer the reader back to Chap. XV. Book II. wherein we attempted to explain the nature of spasm, as considered in the abstract.

But as to the theory of the different diseases wherein this symptom is found to prevail, we fairly acknowledge our inability to lay down any satisfactory scheme. In general, these diseases, like those which are distinguished by pain, are said to be occasioned either by flatus or different species of acrimony, affecting the motory nerves, whereas in the painful diseases the sensitive are supposed to be particularly disturbed; by solid substances acting mechanically, such as splinters of bone, stoney concretions, &c. by the retention of excrementitious humours, or of acrid and offensive matters, especially in the alimentary canal; or by the gnawing of worms in different places, which spread the disturbance by sympathy.

Excepting those spasmodic diseases which arise from the irritation of such things as are apt to lodge in the alimentary canal, very few species are found to be curable; but it is observable of them, as well as of the painful diseases, that they may continue to afflict the patient for a great length of time, without proving fatal, provided the disorder continues to be purely nervous, and that the motions of the vascular system are but little disturbed.

The principal genera of the spasmodic diseases, which are to be ranked among those of the first class, are,

I. TETANUS.—This is a frequent and fatal disease in the hot countries, and is known by the rigid contraction of the muscles in general, accompanied with severe paroxysms of pain, and difficulty of breathing.

II. CATOCHUS.—Wherein the muscles in general are rigid as in the tetanus, but not attended with pain.

III. CA-

III. **CAPISTRUM** or **LOCKED JAW**.—A disease which sometimes invades without any evident cause, but much oftener comes on after wounds of the tendinous parts. Its name denotes the predominant symptom which is a rigid contraction of the muscles that raise the lower jaw.

IV. **HYDROPHOBIA**.—This is sometimes ranked with the mental diseases, and considered as a kind of madness, on account of its distinguishing symptom, namely, the total inability to swallow liquids, accompanied with an insuperable dread and aversion even to the sight of them. This difficulty of swallowing, however, is owing to spasm, and in the greatest number of circumstances the disease agrees with the tetanus and capistrum.

V. **CONVULSION**.—This term, in common language, is used to express all the different species of diseases wherein the muscles are agitated by violent, irregular, and involuntary contractions and relaxations; but here, we intend by it such only as differ in nothing from the epilepsy, except that the patients remain sensible.

VI. **EPILEPSY**.—The patient falls down insensible, and the muscles in general are violently agitated; the fits last from ten or fifteen minutes, to one or two hours; and return either at uncertain intervals, or at stated periods; and thus the disease runs on frequently for years.

VII. **ECLAMPSIA**.—When a convulsion is attended with loss of sense, like the epilepsy, but does not return periodically.

VIII. **HIERANOSOS**.—Is the name for a disease which continues for years, and consists in a perpetual agitation of the muscles in general, without much pain or loss of sense. This case rarely occurs.

Such are the genera of spasmodic diseases, which are intitled to a place in the fifth order of the first class; as to those which affect a particular set of muscles, and impede only some particular action, they are to be classed with the local diseases.

C H A P. IX.

Weaknesses and Privations, their different Genera.

AS opposites to the painful and spasmodic diseases, we may consider the sixth order, wherein somnolency, relaxation of the muscular fibres, and insensibility, are the distinguishing characteristics.

Here we labour under as many difficulties with respect to a satisfactory theory as we did in the preceding chapter, and can do little more than refer the reader back to where the supposed causes of the different predominant symptoms were pointed out.

The genera which are comprehended in this order are,

I. COMA.—The diseases wherein there is a preternatural and morbid degree of sleepiness, which predominates above the other symptoms, are termed in general Comata. They are distinguishable from faintings by the heat of the body, which does not remarkably diminish, and by the pulse which continues full and strong. The names of the different species will be explained, and the specific differences pointed out, in the practical part.

The remote or contingent causes are usually supposed to be collections of serous or sanguineous fluids, pent up within the cranium, which press on the medullary part of the brain, the source from whence it is presumed that the nerves derive their animating fluid.

II. PALSY.—By this term are understood those diseases wherein the muscular power fails, and where weakness is the predominant symptom, when unattended with fever. In palsies the loss of strength is usually accompanied with loss of feeling, owing, as it is presumed, to the deficiency or inactivity of the nervous fluid. Palsies frequently

quently succeed the different species of comata, as also some species of the painful or spasmodic diseases.

III. FAINTING.—Is distinguishable by the sudden and total failure of strength, accompanied with coldness, paleness, and a pulse either much weakened or not to be felt at all. Profuse discharges that carry off the animating fluids or mephitic vapours, which in some inexplicable way destroy the healthy properties of the same, are the most common occasional causes of fainting. Violent passions also are sometimes followed by a suspension of the vital motions. Hence different species and degrees of fainting, known by different appellations.

CHAP. X.

Asthmatic Diseases, divided into Genera.

WE should only repeat what was said in Chapter thirteenth of the second Book, if we went into a general theory of asthmatic diseases, because the nature, causes, and consequences of the distinguishing and predominant symptoms were there explained. When the particular species of this order come to be described, there will be a necessity then of adding somewhat in regard to each of them, but at present nothing more is requisite than to distinguish the genera, which are as follow:

I. DYSPNÆA.—An habitual difficulty of breathing, but not accompanied with the signs which distinguish the hydrothorax and empyema.

II. ORTHOPNÆA.—An accidental and extreme difficulty of breathing, without the signs of inflammation in the lungs.

III. ASTHMA.—A periodical and extreme difficulty of breathing.

IV. HYDROTHORAX, or dropy of the chest, is known by continual difficulty of breathing, which becomes more distressing, and threatens

threatens suffocation when the patient lies horizontally; the face is pale and bloated; the hands and feet are puffed up with œdematous swellings; the sleep is disturbed with uneasy startings; the pulse intermits; there is a palpitation of the heart, and the urine is deficient.

V. EMPYEMA.—When symptoms nearly the same as those which distinguish the hydrothorax succeed an inflammation of the lungs, and are attended with a hectic fever, they serve to shew that there is a collection of purulent matter in the chest, and constitute a disease which is known by the name of empyema.

C H A P. XI.

Mental Diseases, their different Genera.

THOSE diseases wherein the faculties of the mind are especially disordered, and which for that reason have been termed Mental, come next under consideration.

It was formerly observed, that so close is the union between soul and body, that changes which are wrought in the one are reciprocally transferred to the other; as for instance, how soon may a person of the soundest understanding be deprived of the powers of reason, by drinking fermented liquors? These, without doubt, induce certain changes in the corporeal frame, which, in some mysterious way, alter the faculties of the mind; while, on the other hand, there are well-attested instances of people whose hair has changed colour (not to mention other visible alterations in the exterior habit) in consequence of violent passions or of deep meditation; such power have affections of the soul in changing the state of the solids and fluids. Hence two sources of mental diseases, the one depending on our material part, the other on that which is immaterial. But since even those affections or changes of the corporeal frame, which may be deemed material causes, are far removed from the eye of the most inquisitive

inquisitive anatomist, it is easy to see that the theory here must be totally obscure.

Pathologists indeed may speak in a vague and general way of irregularity in the motions of that part of the nervous system which constitutes the organs of internal sense, but this conveys no information, neither is it more satisfactory to trace what may be termed the remote causes with any other view than to prevent these diseases: thus, when it is known that different species of madness have ensued after a salivation or after hard drinking, it may serve to put such people on their guard as have any hereditary or constitutional disposition to these diseases, and teach them caution and moderation in the use of mercury and of fermented liquors. But as to the appearances which have been observed on dissecting the brain of different maniacal subjects, the knowledge of them serves for little more than to gratify curiosity, and has been of no service in enabling physicians to establish successful methods of cure.

With the same view to prevention, it is of use that it should be known, that when people yield themselves up to love, avarice, or religious superstition, and suffer their minds to be wholly engrossed by those violent passions and desires which are peculiar to each, they become liable to lose the use of their reason: as also, from excessive joy, and an unexpected flow of good fortune, as well as from extreme grief and anguish on account of severe losses and disappointments.

Of the mental diseases, which may be deemed universal, and belong to the first class, there is no necessity for distinguishing more than two genera, Mania and Melancholia: as to the rest, which are distinguished by Sauvages and the other systematic writers, they properly belong to the second class, and are to be ranked with the partial or local diseases, as disordering only a particular faculty of the mind, or a particular appetite.

I. MANIA.—The memory, imagination, and judgment, are all confused and perverted; the passions and appetites are violent and outrageous, and the patients require to be restrained.

II. MELANCHOLIA.—The different faculties of the mind are equally confused and perverted as in the mania, but the predominant passions are fear and grief.

CH A P. XII.

Cachexies or humoral Diseases, their different Genera.

WE now come to the last order of the universal diseases, namely, those wherein the gross fluids are affected, as being either stagnant and accumulated beyond the healthy quantity, or depraved by different species of acrimony; whence, along with different species of general distress or inability, the exterior habit becomes deformed by various kinds of swelling, wasting, discolouring, or cutaneous eruption and ulceration.

The general theory will be found in the twentieth Chapter of the second Book, where the possible causes of diseases were explained, and it was shewn how the different animal fluids may come to stagnate, or accumulate either in the cellular system or in the larger cavities, and where were pointed out the different species of acrimony, which vitiate the blood and destroy the texture of the solids.

When we come to treat particularly of the cure of humoral diseases, we shall then give their respective theories; at present we have only to enumerate and distinguish the genera, which are as follow:

I. CORPULENCY. POLYSARCIA.—When there is such an abundance of oily fluid separated from the blood, and stagnant in the adipose cells, that the motions of the nervous and vascular systems are proportionally impeded and interrupted; whence languor, weakness, somnolency, and difficulty of breathing.

II. DROPSY.—When a watery fluid is accumulated, either in the cellular interstices or in any of the larger cavities; whence ensue weakness, oppression, difficulty of breathing, coldness, paleness, and other symptoms, which constitute different species and varieties, according to the place where the water is lodged, and circumstances attending the disease.

III. JAUNDICE.—When the bile is obstructed in its passage from the gall-bladder into the duodenum it regurgitates, and being carried back into the blood, circulates with it, and tinges the serum; whence a yellow colour is diffused all over the surface of the body, and a number of distressing symptoms arise, particularly nausea, costiveness, wasting of the flesh, weakness, and oftentimes a troublesome itchiness.

IV. EMPHYSEMA.—When the cellular interstices are filled and distended with elastic air, either in consequence of wounds in the thorax, or from the extrication of the aerial part of the blood. The tense, elastic swelling, and crackling upon pressure, sufficiently distinguish this disease from a dropsy.

V. TYMPANY.—A swelling of the abdomen from flatus. The lightness and tension of the swelling, and want of fluctuation, sufficiently distinguish the tympany from a collection of water in the belly; or from the

VI. PHYSCONIA.—A hard swelling of the abdomen, from the enlargement of the different viscera.

VII. ATROPHIA, or Marasmus.—Wasting of the flesh, or decay, when not accompanied with febrile symptoms.

VIII. OSTEOSARCOSIS.—A general softening of the bones, and degeneracy into a fleshy substance.

IX. SARCOSTOSIS.—A general hardening of the flesh, and degeneracy into a boney substance.

X. MORTIFICATION.—When the juices are so far vitiated in a particular part, that the circulation ceases, and the solids are corroded or waste away.

XI. SCURVY.—A disease which prevails much in cold damp situations, on shipboard, and in garrisons, where people are often obliged to live chiefly on salted animal food, without a requisite proportion of fresh vegetables. A bloated countenance, loss of strength, rotten gums, straitness in the chest, and difficulty of breathing upon exercise, and livid or dusky spots appearing on the skin, are the principal symptoms of the disease.

XII. SCROFULA.—At first begins with indolent tumours of the lymphatic glands, especially those in the neck; and swellings of different joints: at length these grow painful, suppurate, and discharge a mild, curdly kind of humour: the body wastes; and a hectic fever often supervenes.

XIII. CANCER.—Hard swellings appear in different parts, but most commonly in the lips or breasts; these grow extremely painful; at length ulcerate and discharge a most sharp and corrosive ichor, which eats away the fleshy substance, and produces caries of the adjoining bones.

XIV. LUES VENEREA.—A very common and contagious disease, the consequence of impure venery. The principal symptoms are ulceration, generally first of the pudenda, then of the tonsils; copper-coloured scabby eruptions on the face, especially near the hair, and in other parts of the body, with nocturnal pains in the bones.

Such are the genera of cachexies, which are to be ranked with the universal diseases, because they are, for the most part, accompanied with prevailing degrees of pain, weakness, or some other general symptom. All the other superficial diseases are to be considered as local, and will be included in the sixth order of the second class.

Before

Before we proceed to enumerate the several genera of local diseases, it will not be amiss to subjoin a table, containing those which have been already distinguished.

GENERA OF UNIVERSAL DISEASES.

Order I. *Fevers.*

1. Continued fever.
2. Intermittent.
3. Remittent.
4. Eruptive.
5. Hectic.

Order II. *Inflammations.*

6. External inflammation.
7. Internal inflammation.

Order III. *Fluxes.*

8. Alvine-flux.
9. Hæmorrhage.
10. Humoral discharge.

Order IV. *Painful Diseases.*

11. Gout.
12. Rheumatism.
13. Ostocopus.
14. Headach.
15. Toothach.
16. Earach.
17. Pleurodyne.
18. Pain in the stomach.
19. Colic.
20. Stone.
21. Ischuria.
22. Proctalgia.

Order V. *Spasmodic Diseases.*

- 23. Tetanus.
- 24. Catochus.
- 25. Locked-jaw.
- 26. Hydrophobia.
- 27. Convulsion.
- 28. Epilepsy.
- 29. Eclampsia.
- 30. Hieranofos.

Order VI. *Weaknesses and Privations.*

- 31. Coma.
- 32. Palsy.
- 33. Fainting.

Order VII. *Asthmatic Diseases.*

- 34. Dyspnæa.
- 35. Orthopnæa.
- 36. Asthma.
- 37. Hydrothorax.
- 38. Empyema.

Order VIII. *Mental Diseases.*

- 39. Mania.
- 40. Melancholia.

Order IX. *Cachexies, or humoral Diseases.*

- 41. Corpulency.
- 42. Dropsy.
- 43. Jaundice.
- 44. Emphysema.

45. Tym-

45. Tympany.
 46. Phylconia.
 47. Atrophia.
 48. Osteosarcofis.
 49. Sarcoftosis.
 50. Mortification.
 51. Scurvy.
 52. Scrofula.
 53. Cancer.
 54. Lues venera.
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C H A P. XIII.

The several Orders of local Diseases, divided into Genera, with their Descriptions.

HAVING had a general survey of the Universal Diseases, we now proceed to consider those which take their name and distinction from some predominant local appearance or symptom.

It was formerly observed, that in order to constitute what, strictly speaking, can be termed a Disease, a certain proportion of some one or more of the fifteen general symptoms must enter into the assemblage; yet, in the local diseases, not in such degrees as to obscure the local disorder; for this it is that here gives the distinguishing characteristic, and entitles them to a place in the second class.

Hence it appears, that the theory of local diseases must always depend on a knowledge of the particular structure and use of the part affected, joined to a knowledge of the nature, causes and consequences of the fifteen general symptoms.

The structure and uses of the several organs are presumed to be known, and the theories of the general symptoms having been already laid down, we are under no necessity of entering into new disquisitions,

disquisitions, little more being now required than to describe the different genera which make up the eight orders of local diseases.

(I.) The first order comprehends the diseases of internal sense, and of these there are three genera:

I. AMNESIA.—Loss of memory; this is sometimes observed to happen in consequence of certain species of fevers, or after some of the comata.

II. HYPOCHONDRIASIS; vulgarly termed Vapours.—A disease of the imagination, wherein the patient makes a number of complaints, which are not accompanied with any correspondent degree of disorder in respect of the vital motions, nor any visible alteration in the external habit. Flatulency, restlessness, and a dejected anxious mind, are the usual and most prevailing complaints with hypochondriac people.

HYSTERIA is by some writers considered as a genus, and held to be the same thing in women as the hypochondriasis is in men; but rather improperly, for the hysteric temperament, which consists in extreme sensibility, combined with great weakness of the solid texture, gives the distinguishing character and epithet to a variety of symptoms and diseases.

III. AMENTIA.—Defect of reason, or want of the power of judging. This, like loss of memory, has been observed to follow certain fevers, and the comatous diseases.

(II.) The second order comprehends the diseases of the external senses, which may be distinguished into the following genera:

I. BLINDNESS.—Of this there are different degrees, which sometimes proceed from external disorders of the eyelids, and coats of the eye, and sometimes from internal causes, affecting the optic nerves, or destroying the transparency of the humours: whence a great number

number of species, known by different names, which oculists make a parade of distinguishing.

II. DEPRAVED SIGHT.—Including the myopia, presbytia, suffusio, photophobia, vertigo, and some other species.

III. DEAFNESS.—This, like the different degrees of blindness, may proceed either from external or internal causes; whence different species of the disease.

IV. DEPRAVED HEARING.

V. LOSS OF SMELL.—Anosmia.

VI. DEPRAVED SMELL.—When independent of ulcers in the nose or fauces.

VII. LOSS OF TASTE.—Agheusia.

VIII. DEPRAVED TASTE.—When independent of fever.

IX. LOSS OF FEELING.—When independent of general insensibility; termed Anæsthesia or Stupor.

(III.) The third order is appropriated to the diseases which diminish, deprave, abolish, or preternaturally increase the appetites or desires, and consists of the following genera:

I. ANOREXIA.—Want of appetite for solid food, independent of fever, or other universal disease. This, as was formerly observed, is a symptom in a great number of diseases, but sometimes it appears to be the primary and predominant complaint.

II. CYNOREXIA, or Fames Canina.—A morbid excess in the appetite for solid food.

III. PICA.—A depravation of the appetite, when the patient relishes only such things as are not properly of the alimentary kind.

IV. POLYDIPSIA.—Excessive thirst, when not attended with fever, inflammation, flux, or dropsy, in all which diseases excessive thirst

is to be considered only as a symptom. But, like the anorexia, polydipsia is sometimes met with as a primary disease.

V. SATYRIASIS.—An insatiable desire for venereal enjoyments in men; perhaps hardly ever met with as an original disease, but a known symptom in the hydrophobia.

VI. NYMPHOMANIA.—Furor uterinus, the same insatiable desire in women.

VII. ANAPHRODISIA.—Impotency and want of venereal desires in males, who are of proper age for such enjoyments.

[These three last genera may, if the reader pleases, be referred to the sexual diseases.]

(IV.) The fourth order comprehends the diseases of the different secretions and excretions, and includes both the apocrenoses or increased discharges, and the epischemes or suppressions. The genera are,

I. EPIPHORA.—Distinguished by a constant trickling of tears from the inner canthus of the eye, owing to stoppages of the puncta lachrymalia, or of the ducts which lead from them into the nose. As those stoppages and obstructions are produced by different causes, the epiphora is distinguished into different species.

II. CORYZA.—An increased secretion of mucus from the membranes which line the nose, accompanied usually with sneezing, coughing, hoarseness, and sometimes pain or heaviness of the head.

III. PTYALISM.—An increased secretion and spitting of the saliva.

IV. ANACATHARSIS.—An increased secretion or expectoration of mucous, or purulent matter from the glands and membranes which line the larynx and bronchia; naturally accompanied with a cough, and sometimes difficulty of breathing.

V. OTORRHOEA.—Discharge of humours from the internal ear.

VI. DIAR-

VI. DIARRHOEA.—A looseness, when not accompanied with predominant degrees of pain, loss of appetite or weakness, may be considered as a local disease.

VII. ENEURESIS.—Incontinency of urine.

VIII. PYURIA.—Purulent matter voided with the urine.

IX. DYSURIA.—Difficulty in making urine.

X. CONSTIPATION ; — or obstinate costiveness.

XI. TENESMUS.—A needing or frequent inclination to go to stool.

XII. DYSODIA.—Fetid sweating.

XIII. FLATULENCE.—Frequent discharges of flatus from the alimentary canal, either upwards or downwards.

XVI. OEDOSOPHIA.—Discharge of flatus from the urethra in men, or vagina in women.

(V.) The fifth order comprehends the disorders which impede or disturb the different actions. Hence the genera are,

I. APHONIA.—When the voice is suppressed, independent of any comatous disease or fainting.

II. MUTITAS.—When the voice in general is not suppressed, but there is an inability of uttering distinct sounds.

III. PARAPHONIA.—When the tone of voice is depraved.

IV. DYSPHAGIA.—Difficulty of chewing or swallowing, when it proceeds from other causes than inflammation.

V. WRY NECK.—Rigid contraction of the mastoid muscles.

VI. ANGONE.—A choaking, or threatened suffocation, happening independent of inflammation.

VII. SNEEZING.

VIII. HICCUP.

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IX. COUGH.

IX. COUGH.

X. VOMITING.

XI. PALPITATION OF THE HEART.

XII. CHOREA.—A convulsive agitation of the muscles of the legs and arms, obliging the patient to make motions, somewhat resembling those of a person dancing.

XIII. TRISMUS.—A convulsive motion of the muscles of the lower jaw, causing a chattering of the teeth.

XIV. NYSTAGMUS.—A convulsive motion of the eyelids.

XV. CRAMP.—A sudden contraction and rigidity of the muscles in different parts, most commonly the legs, attended with very acute pain.

XVI. SCELOTYRBE.—A permanent contraction and rigid stiffness of the muscles of the arms and legs; rather to be esteemed a symptom of the scurvy than an original disease.

XVII. CONTRACTION.—Stiffness of a particular joint, from spasm.

XVIII. PARALYSIS.—Weakness and relaxation of the muscles of a particular limb.

XIX. ANCHYLOSIS.—Stiffness of a joint, from disorders of the bones, cartilages or ligaments.

XX. GIBBOSITAS.—Crookedness of the back from a distortion of the ribs and vertebræ; whence generally the action of respiration is in some measure impeded.

XXI. LORDOSIS.—Crookedness or distortion of the bones of the legs or arms, impeding their action.

XXII. HYDARTHUS.—Watery tumour of a joint, usually termed White-swelling; whence different degrees of lameness or inability.

(VI.) The

(VI.) The sixth order of local diseases, is an appendage to the ninth of the universal, and contains all those superficial disorders and deformities which are not accompanied with predominant degrees of pain, weakness, sickness, or some other general symptom. As most of these require the aid of surgery or topical remedies, they have been termed *Morbi Chirurgici*, and *Superficiaarii*. The genera are,

I. TUMOR.—Of which there are several species, as will be shewn in the practical part.

II. EXCRESCENCE.—Tumours are confined within the natural teguments, and the skin and cuticle preserve their texture; but excrescences sprout up, or grow out from the surface, and have a covering or exterior appearance different from that of the common teguments. Of these there are different species.

III. ANEURISM.—A dilatation of the coats of an artery, or a sac formed adjoining to one, and filled with blood from the artery; easily distinguished by the pulsation.

IV. VARIX.—A dilatation of the coats of a vein, forming a knotty kind of irregular swelling.

V. PEPULÆ.—Pimples, reddish or livid tubercles, generally hard, and not suppurating, except with difficulty; they are sometimes hot and itchy, or painful; in other cases cold and indolent; whence different species.

VI. PHLYCTENÆ.—Blisters, or vesicles, filled with pellucid or coloured lymph.

VII. PUSTULÆ.—Pustules are vesicles, having a red or inflamed basis, and filled with a purulent or ichorous fluid.

VIII. SCABIES or PSORA.—The itch. Scabby eruptions with a red basis, break out on the hands and other parts of the body, sometimes dry, sometimes discharging an ichor, which corrodes the skin, and produces a troublesome itching.

IX. IMPETIGO.—By this term writers mean to include the different species of pimples and eruptions which break out in different parts of the body, and are vulgarly termed Scorbatic.

X. LEPROSY.—Scaly or scabby eruptions of different sizes, sometimes dry, at others humid, break out on the skin in various places, attended with itching, and other distressing symptoms.

XI. ELEPHANTIASIS.—A contagious disease, distinguished by the eruption of hard tubercles in the face, ulceration in the nose, hoarseness, feebleness of the limbs, and falling off of the hair; the skin in general becoming thick, rough, and wrinkled.

XII. FRAMBESIA.—Vulgarly the yaws; a contagious disease by contact, or in consequence of impure venery, very frequent among the natives of Guinea, and in the West Indies. The distinguishing appearances are ulcerations in different parts of the body, with fungous excrescences of a red colour, somewhat resembling a mulberry or raspberry.

XIII. HERPES.—Cutaneous ulceration from a sharp ichor, which spreads and corrodes the skin in different parts of the body.

XIV. MACULÆ.—Spots which are of various colours and sizes, and do not rise above, or ulcerate the skin.

XV. ALOPECIA.—Falling off of the hair.

XVI. TRICHOMA, or Plica Polonica.—The hair is all matted or glued together by some humour which ouzes from the head; but it is doubted whether this be a disease or only the result of nastiness and superstition.

XVII. SCALD HEAD.—Scabby eruptions, sometimes discharging a purulent ichor, and sometimes quite dry, break out all over the hairy scalp.

XVIII. PHTHIRIASIS.—Vermin bred in clusters under the cuticle and burst forth in different parts of the body.

(VII.) The

(VII.) The seventh order contains the *Ectopiæ*, or those diseases which consist in the dislocation of different organic parts, whether hard or soft. There are three genera:

I. *HERNIA*.—By this term we understand all the different species of swellings which are formed by the protusion or falling down of the omentum, stomach, intestines, urinary bladder, and other contents of the abdomen, provided they remain within the common teguments.

II. *PROLAPSUS*, or *PROCLIDENTIA*.—When a part protrudes or falls down bare, and without defence of the outward skin and cuticle.

III. *LUXATION*.—When the head of a bone is forced from its socket and proper connections.

(VIII.) The eighth and last order contains the solutions of continuity, whether in consequence of external injuries, or from the force of internal acrimony, corroding the substance of the solids. The genera are,

I. *WOUND*.—Which, as it may be made in various ways, incision, laceration, contusion, puncture, morsure, &c. may be distinguished into different species.

II. *ULCER*.—As a wound is defined to be a recent solution of continuity in the soft or fleshy parts, followed by bleeding, so an ulcer is said to be a solution of continuity in the same parts, of some standing, yielding a purulent or ichorous discharge. The various circumstances and appearances attending ulcers constitute different species.

III. *FISSURE*, *RHAGAS*.—A solution of continuity in the soft parts, painful and dry.

IV. *FISTULA*.—The term for a deep ulcer, which discharges a purulent ichor from a small opening, with callous edges.

V. *BURN*.

V. BURN or SCALD.—A destruction of the texture in the soft parts, by fire or heated bodies, whether solid or fluid.

VI. EXCORIATION.—A rubbing off or destruction of the cuticle.

VII. FRACTURE.—Solution of continuity in the bones, from external violence.

VIII. CARIES.—Corrosion or solution of continuity of the boney substance, from internal causes.

C H A P. XIV.

Genera of Sexual and Infantile Diseases.

IT only remains that we now distinguish the genera of those diseases which have been termed Sexual, because of their depending on the particular structure of the organs of generation, or on the circumstances which are peculiarly distinctive of the two sexes, and those which are only found to give distress during the infant state.

It was proposed to divide the Sexual Diseases into four orders:

I. GENERAL DISEASES peculiar to the male sex only: these must be such as girls or women are not liable to, and, nevertheless, are combinations of general symptoms.

II. LOCAL DISEASES peculiar only to males: these must consist in disorders of the feminal vessels, penis, testes, and scrotum.

III. GENERAL DISEASES peculiar only to girls or women: these consist of general symptoms, and depend on the different states of menstruation, pregnancy, lying-in, and nursing.

IV. LOCAL DISEASES peculiar to the female sex; which must consist in disorders respecting the ovaria, uterus, vagina, and os externum.

DISEASES

DISEASES PECULIAR TO MALES.

The Febris Testicularis, which is a fever that terminates in a painful swelling of one or both testicles, and the Tabes Dorsalis, which is a consumption brought on by venereal excesses, and usually accompanied with pain and weakness in the loins, and frequent emissions or continual dripping of seminal fluids, are perhaps the only diseases that can be called General, and yet be considered as peculiar to men alone: but as to local diseases, there are,

- I. DYSPERMATISMUS.—A difficulty or inability of emission.
- II. GONORRHOEA SIMPLEX.
- III. GONORRHOEA VIRULENTA.
- IV. PRIAPISM.—Of which the chordee is a species.
- V. PHYMOSIS.
- VI. PARAPHYMOSIS.
- VII. CHRYSTALLINE.
- VIII. HERNIA HUMORALIS, or inflammation of the testes.
- IX. HYDROCELE.
- X. SARCOCELE.
- XI. CIRSOCELE.

These terms having been already explained, we shall not detain the reader with a repetition, but go on to distinguish the genera of

DISEASES PECULIAR TO FEMALES.

The general diseases are,

- I. AMENORRHOEA.—Defect or suppression of the menstrual discharge; whence various symptoms, formerly explained.
- II. CHLOROSIS.—A frequent disease with girls who lead sedentary lives. The patient falls away, yet looks full in the face, though pale

pale and bloated; the strength fails; the least exercise raises a palpitation of the heart and difficulty of breathing; there is either no appetite for food, or a depraved one for acrid and earthy substances, which can yield no nourishment.

III. MENORRHAGIA.—A too profuse or too frequent flow of the menses, inducing weakness, wasting, paleness, pain in the loins, coldness, and loss of appetite.

IV. LEUCORRHOEA, vulgo Fluor Albus.—An humoral discharge from the uterus and vagina; various in its colour, consistence, and degrees of sharpness. Symptoms similar to those which succeed the menorrhagia are apt to ensue.

V. HYSTERALGIA.—Pain in the uterus, accompanied with a sense of weight or bearing down. As these complaints may arise from various causes, there are different species of hysteralgia.

VI. GRAVIDITAS.—Pregnancy in delicate habits is attended with so many species of complaints, that it may well be considered as a genus of disease.

VII. ABORTUS.—Abortion or premature birth is always to be considered as a disease.

VIII. DYSTOCIA.—Partus difficilis; difficult labour, as being a deviation from the natural state, and apt to be accompanied or followed by variety of distressing complaints, is also to be held as a genus of disease.

IX. FEBRIS PUERPERALIS.—Though the fevers which succeed delivery, and attend the coming of the milk, are, in general, mild, and not accompanied with danger, yet sometimes they turn out of a bad kind, and prove alarming or fatal.

X. MASTODYNIA.—Pain in the breasts; the breasts are liable to become the seat of pains from different causes, but especially inflammation and cancer.

The Local Diseases peculiar to women consist of the following genera:

I. HYDROPS OVARII.

II. SCIRRHUS OVARII.—It is seldom practicable in the living subject to distinguish a dropsy of the ovarium from a scirrhus enlargement; and therefore these diseases will be confounded, and usually pass for species of the Physconia.

III. HYDROMETRA.—Dropsy of the uterus, is sometimes connected with pregnancy, and sometimes the watery fluid alone is shut up in the cavity of the womb.

IV. PHYSOMETRA.—Flatulent distension of the uterus.

V. PROLAPSUS UTERI, seu Procidencia. — Falling down of the womb.

VI. PROLAPSUS VAGINÆ.

VII. POLYPUS-VAGINÆ. — Fleishy excrescences have been observed to grow up, both from the internal surface of the uterus and from the vagina.

INFANTILE DISEASES.—During the infant state the alimentary canal is more apt than at any other period to be loaded with acrid and offensive matters, and this gives a peculiarity to their fevers, fluxes, and convulsions, which requires particular attention.

The general diseases which may be considered as proper to infants are,

I. COLICA MECONIALIS.—The griping which is apt to distress children newly born, from a retention of the meconium.

II. COLICA LACTENTIIUM.—The griping attended with costiveness, which so commonly afflicts children on the breast.

III. DIARRHOEA INFANTUM.—The looseness in children, which, for the most part, is occasioned by an acid saburra; the stools are green and curdly, or full of little lumps.

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IV. APHTHÆ.—These whitish sloughs which break out on the lips, tongue, and fauces, and look like an ulceration, have been already described. The child refuses the breast, and seems oppressed with sleep.

V. ECLAMPSIA INFANTUM.—The convulsions of infants, arising from acrid matters in the alimentary canal, or from teething.

VI. ATROPHIA INFANTUM. —The belly grows large, the limbs waste, hectic heats come on, and death generally ensues.

VII. RACHITIS.—Rickets; the limbs grow feeble, and unable to support the weight of the body; the joints swell, the bones lose their hardness, and bend; the size of the head is out of proportion; the fontanelle remains open, and oftentimes the ribs and vertebræ of the back are distorted.

The Local Diseases of children are,

I. Imperforation of the natural passages.

II. ANCHYLOGLOSSUM.—Tying of the tongue.

III. AURIGO INFANTUM.—Yellow gum.

IV. PURPURA INFANTUM.—Red gum. Both of these appear to be cutaneous diseases, and have been formerly described.

V. CRUSTA LACTEA.—A scabby eruption which breaks out on the head, and sometimes spreads to the face.

The following table of the several genera of local, sexual, and infantile diseases being added to the former one, containing those of the first class, will exhibit a general view of the morbid state.

GENERA OF LOCAL DISEASES.

Order I. *Diseases of the Internal Senses.*

1. Loss of memory.

2. Hypochondriasis.

3. Loss of judgment.

Order

Order II. *Diseases of the External Senses.*

4. Blindness.
5. Depraved sight.
6. Deafness.
7. Depraved hearing.
8. Loss of smell.
9. Depraved smell.
10. Loss of taste.
11. Depraved taste.
12. Loss of feeling.

Order III. *Diseases of the Appetites.*

13. Anorexia.
14. Cynorexia—Fames canina.
15. Pica.
16. Polydipsia.
17. Satyriasis.
18. Nymphomania.
19. Anaphrodisia.

Order IV. *Diseases of the Secretions and Excretions.*

20. Epiphora.
21. Coryza.
22. Ptyalism.
23. Anacatharsis.
24. Otorrhœa.
25. Diarrhœa.
26. Incontinency of urine.
27. Pyuria.
28. Dysuria.
29. Constipation.

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GENERA OF DISEASES.

30. Tenesmus.

31. Dysodia.

32. Flatulence.

33. Ædosophia.

Order V. *Diseases impeding or disturbing different Actions.*

34. Aphonia.

35. Mutitas.

36. Paraphonia.

37. Dysphagia.

38. Wry neck.

39. Angone.

40. Hiccup.

41. Sneezing.

42. Cough.

43. Vomiting.

44. Palpitation.

45. Chorea.

46. Trismus.

47. Nyctagmus.

48. Cramp.

49. Scelotyrbe.

50. Contraction.

51. Paralyfis.

52. Anchylofis.

53. Gibbositas.

54. Lordosis.

55. Hydarthus.

Order VI. *Diseases of the External Habit.*

56. Tumor.

57. Excrescence.

- 58. Aneurism.
- 59. Varix.
- 60. Papulæ.
- 61. Phlyctænæ.
- 62. Pustulæ.
- 63. Scabies. Pfora.
- 64. Impetigo.
- 65. Leprosy.
- 66. Elephantiasis.
- 67. Frambæsia.
- 68. Herpes.
- 69. Maculæ.
- 70. Alopecia.
- 71. Trichoma—Plica polonica.
- 72. Tinea.
- 73. Phthiriasis.

Order VII. *Dislocations.*

- 74. Hernia.
- 75. Prolapsus—procidencia.
- 76. Luxation.

Order VIII. *Solutions of Continuity and Destruction of Texture.*

- 77. Wound.
- 78. Ulcer.
- 79. Fissure—Rhagas.
- 80. Fistula.
- 81. Burn. Scald.
- 82. Excoriation.
- 83. Fracture.
- 84. Caries.

GENERA OF SEXUAL DISEASES.

Order I. *General, proper to Men.*

1. Febris testicularis.
2. Tabes dorsalis.

Order II. *Local, proper to Men.*

3. Dyspermatismus.
4. Gonorrhœa simplex.
5. Gonorrhœa virulenta.
6. Priapism.
7. Phymosis.
8. Paraphymosis.
9. ChrySTALLINE.
10. Hernia humoralis.
11. Hydrocele.
12. Sarcocoele.
13. Cirsocele.

Order III. *General, proper to Women.*

14. Amenorrhœa.
15. Chlorosis.
16. Leucorrhœa.
17. Menorrhagia.
18. Hysteralgia.
19. Graviditas.
20. Abortus.
21. Dystocia. Partus difficilis.
22. Febris puerperalis.
23. Mastodynia.

Order IV. *Local, proper to Women.*

24. Hydrops ovarii.
25. Scirrhus ovarii.

26. Hydro-

26. Hydrometra.
27. Physometra.
28. Prolapsus uteri.
29. Prolapsus vaginæ.
30. Polypus-uteri, seu vaginæ.

GENERA OF INFANTILE DISEASES.

Order I. *General, proper to the Infant State.*

1. Colica meconialis.
2. Colica lactentium.
3. Diarrhœa infantum.
4. Aphthæ.
5. Eclampsia infantum.
6. Atrophia infantum.
7. Rachitis.

Order II. *Local, proper to the Infant State.*

8. Imperforation.
9. Anchyloglossum.
10. Aurigo infantum.
11. Purpura infantum.
12. Crusta lactea.

Total of Genera.

Universal,	—	—	54
Local,	—	—	84
Sexual,	—	—	30
Infantile,	—	—	11
			179

When

When the whole of the different genera of universal, local, sexual, and infantile diseases is summed up, and compared with the catalogues of Sauvages, Linnæus, and Vogel, it appears, that according to our scheme the number is considerably reduced; for, Sauvages makes 315, Linnæus 325, and Vogel mounts them up to 560. We have indeed exceeded Dr. Cullen's list, for he makes only 122 genera, including diseases of every sort, whether they be universal, local, or peculiar to the sexes and state of infancy.

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A
METHODICAL INTRODUCTION
TO THE
THEORY of PHYSIC.

BOOK V.

Semeiology, or the Doctrine of Signs.

CHAP. I.

Signs of Diseases in General.

HAVING finished our general view of the morbid state, we now come to that part of physic which is termed Semeiology, or the Doctrine of Signs, explaining the methods whereby we are enabled to form a judgment, either of the present state of a disease, or of the way in which it will terminate.

It is not an uncommon thing in the medical writings to see signs that are purely such, confounded with the symptoms which make a part of the disease.

For though all the symptoms are signs, yet all signs are not symptoms; as, for instance, a quick pulse, and high-coloured urine are signs of a fever, provided the person who has such a pulse, or makes such urine, is at the same time affected with the symptoms of excessive heat, thirst, loss of appetite, weakness, and restlessness, if he has not

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all, or most of these symptoms, then the quick pulse and high-coloured urine infer nothing, because it often happens that these shall occur without being attended with any one species of morbid inability or distress.

As the symptoms are the component parts of the disease, they must of course be the true signs, so that we only feel the pulse and inspect the urine in aid of these signs; for if the urine and pulse be considered without reference to the symptoms, they can never enable us to form any judgment concerning either the nature or actual state of a disease; as for example, we are told that a person is afflicted with a sharp and fixed pain in the side, increasing upon inspiration, and accompanied with a teasing cough, excessive heat, thirst, and restlessness; now, we know that this combination of symptoms forms the disease called a Pleurisy, and therefore will not hesitate to pronounce that this is the species which the sick person labours under; but if we are only told that the pulse is quick and full, or that the urine is high-coloured, then we cannot tell with any degree of certainty whether there be a disease, or whether the person has only overheated himself with violent exercise.

Signs are distinguished as being either diagnostic, prognostic, or anamnestic.

Diagnostic signs assure us of the present state of a disease, and serve to define or distinguish it. Thus, excessive heat, severe pain in the head, great thirst, and restlessness, with a dry skin, an extremely frequent, full, and hard pulse, and high-coloured urine, are the diagnostic signs of that species of fever which is termed an inflammatory fever.

Prognostic signs are those which enable us to foretell the changes that will happen during the course of the disease. Thus, if a person labouring under an inflammatory fever, complains that the pain of

the head is become extremely violent, with a buzzing in the ears, a redness and fierce look in the eyes, and the urine changes to a watery paleness, we may safely venture to prognosticate that a delirium will immediately supervene.

Anamnestic signs are those which enable us to tell what disease the party is just emerged from; for instance, a scurfy dryness of the skin, with sore eyes, a troublesome dry cough, and weakness, shew the person so affected has lately had the measles.

It is sufficiently obvious, however, that these anamnestic signs are not of much importance, even if they were more to be depended on than they really are; the knowledge of the diagnostic and of the prognostic is what we are principally to cultivate.

The chief diagnostic signs of the whole first class of diseases are the fifteen general symptoms; when we find two or more of these combine together, and prevail throughout the whole, or greatest part of the course of the disease, they serve to assure us that the disease is one of those which must be intitled an Universal Disease. As to the signs of the several species, they shall be laid down hereafter, when these come to be particularly described.

The diagnostic signs of the second class of diseases will be understood from the description of the partial or local symptoms, which distinguish and give them the various names, according to the different parts which are affected.

The symptoms then are the genuine diagnostic signs of diseases; but many of these symptoms are such as can neither be seen nor felt, and therefore what knowledge we have of them must come either from induction, or from information given by the patient: it very often happens, however, that patients are incapable of distinctly telling the complaints under which they labour; and hence the improvers of physic have fallen upon certain methods to supply these deficiencies,

deficiencies, and for enabling those who attend the sick to form a judgment with respect to the present and future state of diseases, and this by attending to the state of the animal motions; for the more they depart from that moderate, equable, and free rate, which constitutes perfect health, so much the more distressing and dangerous must be the state of the sick person.

The motions of the nervous system being totally beyond the reach of observation, we can know nothing of this part of the corporeal frame but from observing the state of the different organs of sense and instruments of voluntary motion, together with the appearances of the eyes and of the whole countenance.

But as the motions of the vascular system are evident, and depend on the heart as the first mover, we can readily tell at any time whether the general circulation be carried on as it ought to be, and may judge, with a considerable share of certainty, concerning the degrees of disorder or interruption, and this by examining the pulse, and by observing how respiration is performed.

C H A P. II.

Signs derived from the Pulse.

IT has hitherto been generally said and believed, that the very ancient physicians availed themselves but little of the observations which may be made of the pulse, and that there is only slight mention of it in the writings which pass under the name of Hippocrates; but professor de Haen, who seems almost to worship the parent of physic, and deems it injurious to the honour of Hippocrates, that he should not be allowed to know as much concerning the pulse as any of those who have come after him; has quoted above forty different passages wherein mention is made of pulses and pulsations. But whether those amount to a full proof of the point which the professor

for labours to establish, shall be left to the reader who peruses the first chapter of the twelfth part of his *Ratio Medendi*.

Aretæus, indeed, from the extracts given by de Haen, appears to have attended a good deal to the changes of the pulse; but whatever omissions in regard to this matter may be chargeable on Hippocrates, are amply made up by the luxuriant fancy of his commentator, Galen, who has formed an extravagant number of distinctions, most of which do not occur in practice; or if they did, they could not be known from the descriptions which are given: much the same thing may be said in regard to the doctrines of some modern writers, who have persuaded themselves that there are peculiarities of the pulse from which one may foretell many things with respect to the progress and event of diseases.

These peculiarities, which can only be observed by a very attentive head, and a very nice touch, are not to be learnt from books; and if there be such pulses, as Solano, Bordeu, and their followers, have told of, the persons who are desirous of learning how to distinguish them must attend the practice of these gentlemen, and be taught, at the patient's bedside, how to know the minute variations from those states of the pulse which are observed by common practitioners.

Before we draw any conclusions from the state of the pulse, we are always to consider that the healthy rate is relative to the particular circumstances of age, sex, and constitution: in the first place therefore we should, if possible, find out what the healthy rate is, as that must be the standard whereby to judge of the degree of morbid deviation.

We are also to consider that the vascular system is but a part of the animal machine, and though, from the pulse, we may infer there is no disorder in respect of the general circulation, because we find the motions to be moderate, equable, and free, yet that does not assure

us that every thing is well on the part of the nervous system, because there may be very much disturbance there, while little or none shall be perceived from the pulse.

Persons who mean to apply to the practice of physic should make themselves acquainted with the degrees of strength, and general rates of the pulse, as felt in infants, adults, and aged men, and in women, while in perfect health, for all these have their own peculiar healthy rate.

During perfect health, the pulse will be found equable, moderate, and free, whereas in the morbid state, we shall sometimes find it unequal and intermitting; the time between the strokes, as well as the force of the stroke, every now and then varying; sometimes it will stop entirely, sometimes it will be found immoderately quick, and sometimes unnaturally slow; sometimes it will be raised greatly above the healthy degree of strength, and sometimes sunk as much below it.

The inferences to be drawn from these different states of the pulse are in general the following:

From the unequal or intermitting pulse we are to infer that there is great disorder in the nervous system, and consequently must look on this kind of pulse as an alarming sign, and one that ought always to put us on our guard, and prepare to expect the very worst that can happen. The degree of danger should be estimated, however, from the circumstances that have preceded, or which may attend this uneven or intermitting pulse; for, if it comes at the close of a fever, when the strength is much exhausted, or after large evacuations of any sort, we may look on it as a desperate sign; but if it happens only after some sudden gust of passion, or is in any degree habitual, (as hath sometimes been observed) then we need not be so much alarmed.

An entire stoppage of the pulse must always be deemed very alarming, if it continues any time, or if it succeeds profuse hæmorrhages,
or

or other discharges; if there be any circulation while the pulse ceases to be felt, it must be owing to the simple contraction and dilatation of the heart, without any considerable degree of subfultory motion.

Some writers distinguish between a quick pulse and a frequent; by a frequent pulse they mean, that there is an unusual number of strokes in a given space of time; and by a quick pulse they understand that the stroke is made with remarkable smartness, in the smallest portion of time that can be conceived: the epithet hard seems rather to express this matter better than quick, and therefore we shall apply it to signify that stroke of the pulse which is made in such a smart way, and is accompanied with such tension in the coats of the artery, that it gives the idea of somewhat hard lying under the finger.

From the pulse that is immoderately quick or frequent, we may infer that there is an unusual irritation kept up in the vascular system, either from acrid matters contained in the blood, which stimulate the heart and the arteries; or from the ventricles not being able to empty themselves completely, whence they are kept in a constant state of irritation; the ventricles of the heart may want power for enabling them to contract sufficiently, or the extremities of the arterial system may be so constricted or closed up, that the blood is too much accumulated about the center, or it may be returned from the circumference faster than it ought to be, and in greater quantities than the heart can well receive it, as always happens after violent or unusual bodily exercise; hence we may understand the reason why all profuse evacuations quicken the pulse; for, in people who die in consequence of such, the pulse, as death draws near, becomes exceedingly frequent, because the muscular force of the heart is now so greatly weakened, that the ventricles can never sufficiently clear themselves; as also, why every thing that causes spasmodic constriction must quicken the pulse: and thus we see, that a quick pulse

pulse must be inseparable from a fever, so long as the arteries at the circumference are in any considerable degree constricted or straitened.

A frequent or quick pulse, considered merely as such, does not imply that the circulating force of the blood is increased, or that any given quantity of it moves through a greater space of the containing vessels in a given time, than it did before the pulse became more frequent than it ought to be in the natural state.

The circulating force of the blood is to be estimated by multiplying the strength of the pulse into the number of strokes in a given portion of time. For the sake of illustration, let us estimate the strength of the pulse in the time of perfect health as equal to four, while the number of strokes in a minute are seventy; 70 multiplied by 4, gives 280; 280 then, we shall say, is the circulating force in the time of perfect health.

Now, let us suppose an inflammatory fever to arise, and that the strength of the pulse is increased to 5, while the number of strokes in a minute is increased to 112; these two numbers being multiplied into each other, produce 560, which is double what the circulating force was during the natural and healthy state.

But let us suppose the number of pulses in a minute to be still 112, and the strength of the stroke to be reduced one-half below the healthy standard; that is, we shall reckon it only 2 instead of 4, then the product will only be 224, which is greatly below the healthy rate. Thus we see, that notwithstanding the pulse is so much more frequent, yet the mass of blood does not circulate with such freedom and velocity as it did while the heart contracted itself only 70 times in a minute instead of 112.

When we find the pulse unnaturally slow, we infer that the heart and arterial system are less irritable than they ought to be, which may happen from a want of proper supply of subtile nervous fluid
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to enliven the fibres, as seems to be the case when the vessels or ventricles of the brain are furcharged with blood or serum; or when it is pressed upon by the scull, beat in or fractured: the irritability of the heart may also be lessened, and the power of its fibres weakened, from an accumulation of oily, gelatinous, or watery fluid in the cellular interstices, as happens in the cases of over-corpulent or hydro-pic habits; or from the too great accession of inert solid matter, which seems to be the case with people advanced in life, in whom the living solids are obstructed in their motions, by the gradual increase of inert solids.

As mere quickness or frequency of the pulse does not imply that the circulating force of the blood is increased, neither does mere slowness prove that it is diminished; so that we are to form our judgment here on the same principle as we did with respect to the other: as for instance, if the pulse of a person who is just recovering from a fever shall become so slow as to beat only 56 times in a minute, while the strength of each stroke or impulse shall continue so great as to be estimated at 5, then we see by the product, which is 280, that the circulating force is precisely the same with what it was in the time of perfect health, when we estimated the strength at 4, and the number of pulses at 70.

Hence we may understand the reason why a strong and a slow pulse, provided it be equable, is such a good sign, when it succeeds that which has been weak and frequent; and why we look on such a pulse as a sure token that the crisis of a fever has been complete, and that perfect equability and freedom are again restored to the circulation throughout every part of the arterial system.

A strong pulse shews that the influx of nervous fluid to the heart is perfectly free, and that the fibres of this muscle, and of the arterial system in general, are firm and entire, while the blood which the

vessels contain will be found remarkably dense, and rich in the colouring part; on the contrary, a weak pulse must denote want of power in the heart and vascular system in general, arising from a relaxed and flabby state of the solids, joined to a poor, thin, and watery state of the blood.

The hardness of the pulse, which is peculiar to some diseases, particularly inflammations of the membranous parts, which are accompanied with severe pain, is supposed to arise from an unusual degree of tension communicated to the motory fibres in general; extreme softness, on the contrary, must be ascribed to the opposite state of the living fibres, and must be considered only as a slight variation from the weak pulse.

From reviewing what has been said concerning the several states of the pulse, as considered separately, we may easily infer what follows from their several combinations; thus, a quick, hard, and strong pulse, plainly denotes that the heart and arterial system are greatly irritated; that there is much tension of the motory fibres in general, and that the vessels are full of blood, which is usually dense, and stored with the red particles.

Thus much may suffice concerning the pulse, with respect to the morbid state in general; when we come to describe particular species of diseases, there will be a necessity for taking further notice of it, as it is found to be affected in different cases.

C H A P.

C H A P. III.

Signs derived from Respiration.

AS the whole mass of circulating fluids must necessarily pass through the pulmonary vessels in its progress from the one ventricle of the heart to the other, we may readily comprehend that the signs derived from the pulse should be confirmed by those which are taken from respiration.

While people enjoy perfect health, respiration is carried on so as to give ease and refreshment, and with such a gentle motion of the different parts concerned, that the rising and falling of the ribs is scarcely to be perceived; the cavity of the thorax being alternately enlarged and diminished, chiefly by the alternate relaxation and contraction of the diaphragm and muscles of the abdomen. But in diseases, we often observe the respiration to be much disturbed and interrupted, being performed with pain, difficulty, quickness, a perceivable noise, and an evident motion of the ribs. All these different deviations from the healthy state are to be used as signs, to enable us to judge concerning the degrees of disturbance and interruption in regard to the general circulation. For the lungs may be looked on as an epitome of the whole body, with respect to its vascular composition; this viscus having as many series of vessels; and therefore the blood which flows freely through the vessels of the lungs may be supposed capable of making an easy circuit through the remainder of the sanguiferous canals.

In health, it is generally observed, that we draw our breath only once, while the heart contracts itself four times: hence we may infer, from a respiration which is quicker than usual, that the blood is sent out from the heart into the pulmonary arteries in great abundance,

dance, owing sometimes to its being returned from the circumference to the center in unusual quantities, as is always the case after violent bodily exercise, and some particular passions of the mind: hence it is, that spasmodic constriction always quickens the respiration, which will also happen when the circulation through the lungs is any how interrupted; for if the lungs cannot afford a passage to the usual quantity of blood from one dilatation, this defect must be made amends for by the repetition: hence we see, that a quick respiration may be held as a sign of infarcted lungs, and these infarctions, as hath been already mentioned, may be of various natures. The respiration also will be quickened, if the muscles concerned in this action (especially the diaphragm) be agitated with any degree of spasm. And this is a case that often happens in hysteric patients, from flatus or other offensive matters pent up in the stomach or intestines; and in infants, from a load of coagulated milk or other stimulating or oppressive materials.

A laborious or difficult respiration, wherein the breathing is unnaturally quick, the thorax not being sufficiently enlarged as to its capacity, is a sign that the passage through the pulmonary vessels is interrupted, either by a spasmodic stricture of these vessels, or (if the notion of lentor be admitted) from a too great tenacity of the blood, which cannot easily make its way through the minute extremities of the pulmonary artery; or difficult breathing may denote that there is an accumulation of watery, oily, or perhaps earthy matter in the cellular part of the lungs, whereby the air vessels, as well as the blood-vessels, are compressed, and the one set hindered from being sufficiently distended with air, while the others are straitened in their diameters: hence the passage of the circulating fluids must be interrupted in proportion to the quantity of matter so accumulated.

Respiration, attended with a fixed internal pain, which is very acute and distressing, is a sign that the membranous covering of the lungs,

lungs, and the membranes which line the thorax, are in a state of inflammation, the vessels spread over these parts being over-distended, and nearly ruptured, by the load of fluids which are forced into them; if a laborious and very difficult respiration be attended with a dull deep-seated pain, and quick, but weak pulse, it shews the substance of the lungs to be inflamed.

But if the pain which attends difficult respiration be in the fleshy and external parts of the chest, and is not fixed, but flies like a cramp from place to place, the pulse at the same time being little disturbed, it is a sign that there is some spasmodic affection, which will probably be relieved by an opiate; or rheumatic acrimony, which will give way to the application of a blister.

A quick and difficult respiration, with a sobbing or rattling in the fauces, if it succeeds other bad signs, such as a frequent and very weak pulse, cold sweats, insensibility, or total loss of strength, may be looked on as a sign of approaching death.

As difficulty and disturbance in regard to the action of respiration may be brought on by a great variety of causes, many of which, in themselves, have but little of distress or danger, we can never infer any thing with certainty from the signs of respiration alone, but must always take into the account the other symptoms and circumstances attending the patient, and by laying the whole together, draw the proper conclusions: for instance, we shall often see persons of a very delicate habit, endowed with much sensibility, fall into very great distress in regard to the action of respiration, from causes that affect only the muscles concerned in this action, and which do not much interrupt or disturb the passage of the blood through the lungs; consequently, though very alarming at first sight, it is not to be held as a sign of much danger; for while the passage through the pulmonary vessels keeps tolerably free, (and this may be always known from the pulse) we are not to look on difficult respiration as a
sign.

sign of approaching death; but if a suffocating or exceedingly difficult respiration should come on, when we know from other circumstances that the lungs are in a state of inflammation, or are stuffed up and incumbered with watery, mucous, oily, sanguineous, or purulent matter, then we are to esteem it as a very bad sign, and prepare for the worst.

When we come particularly to treat of those diseases wherein difficulty of breathing is the distinguishing symptom, we shall then point out more distinctly the cases wherein the distress arises from infarcted or incumbered lungs, and those wherein it is owing merely to affections of the nerves bestowed on the muscles of respiration.

As there are accidental or constitutional peculiarities of pulse, which are always to be attended to, in like manner we are still to consider that respiration is liable to vary much in different people, according to their different constitutions, also according to the different formation of the thorax, and the particular state of the lungs; to which we must add, the different effects that may be expected from changes of weather, and from the differences of climate and situation.

C H A P. IV.

Signs which denote Disorder in the Nervous System.

WE know from a multitude of observations, and from experiments on living animals, that sensation, perception, and voluntary motion, all depend on the sound state of the nerves; therefore, when at any time we find the different external senses, the faculties of the mind, or the powers of the muscular fibres impaired, disordered, or suspended, we may be then certain that all is not right with respect to the nervous system; and by comparing the

the various morbid deviations with the states of perception, sensation, and voluntary motion, as they ought to be in the healthy subject, we may be enabled to form some notion of the several degrees of morbid distress and danger. As, for instance, a person in a fever is very delirious, and unable to sleep; the actual cause of these two symptoms, we presume to be a too plentiful distribution of the nervous fluid to the organs of sense, both internal and external: therefore, on observing these two symptoms, we infer that the increased force of the circulating fluids, which constitutes the fever, has also produced an increased secretion of nervous fluid, and that this subtil matter is now sent into the nerves in a too great proportion. Hence also we conclude, if these two symptoms continue to rage with violence, that the sick person's life must be in very great danger, because of the extraordinary waste of this enlivening fluid, without a due share of which the animal motions cannot possibly be carried on.

But if the same person in the course of this fever becomes stupid, and sinks into a constant dosing, then we are to infer that the nerves are not sufficiently supplied, and that their motions are become remiss, by reason of the blood-vessels of the brain being over-distended, or perhaps ruptured, from the continuance of the violent and rapid motion of the circulating fluids: and hence again we prognosticate the dangerous situation of the patient, from the appearance of these two accessory symptoms.

On the same principle we always infer great danger from spasms, when joined with disorder of the vascular system, or from extreme weakness of body, or dejection of spirit, than which there cannot be more alarming signs when they appear in any species of febrile disease.

It was formerly laid down, that the nerves are equally liable to be affected at their origin in the brain, and by offensive matters acting
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on the places where particular cords terminate, which communicate by some inexplicable sympathy the distress and disturbance to the whole nervous system.

The most common source of all these disturbances being acrid and offensive matters, pent up in the alimentary canal; the general system of solids and the common mass of fluids being not in fault, it will be of great utility to observe the signs that shew the presence and nature of these noxious matters, and which point out the most proper ways and times for correcting or expelling them.

The signs that indicate in general a load of offensive matter in the stomach or flexure of the duodenum, which may and ought to be evacuated by vomiting, are chiefly these: foulness of the tongue, when it is beset with fordes and thick sloughs; a bitter, sour, rancid or putrid taste in the mouth, nausea, and loss of appetite; pain in the left orifice and upper part of the stomach; weight and oppression about the præcordia, with fulness and a soft swelling of the hypochondria; heaviness, giddiness, and pain in the head; shiverings and coldness of the extremities, with a general lassitude and sudden loss of strength.

But when the load of offensive matter is lower down, and requires to be carried off by purging, there is generally then a distension, pain, and rumbling noise of the belly; fetid, sharp and griping stools, pain in the loins, and extended down the thighs, together with weakness, and a heavy dull kind of pain about the knees.

The general state of the nervous system may be also judged of, in some measure, by the look of the eyes, and from the general appearance of the whole countenance; the more these appearances deviate from the peculiar and healthy look, so much the more alarming: and hence we always infer great danger, when the patient's countenance is so changed, that even his friends can scarcely know it.

Persons

Persons who are much conversant among the sick, imperceptibly acquire a knowledge of those signs, which are derived from observing the eyes, and from the general cast of features; but there is no such thing as communicating this knowledge in any other way than by pointing out the appearances as they actually present themselves in the countenance of the patient.

C H A P. V.

Signs derived from different Eruptions, and other external Appearances.

IN order to obtain a further knowledge of the state of sick persons, we must carefully observe the different kinds of eruptions, discolourings, or other appearances which shew themselves on the surface of the body; we must examine the blood after it is drawn, inspect, or perhaps analyze the urine; consider such discharges as may come from the lungs by spitting; from the stomach by vomiting; or from the intestines by purging.

As some of the cutaneous eruptions are preceded or accompanied by a fever, we must always distinguish those from such as are not so attended.

Many of the febrile eruptions are the offspring of a specific kind of morbid matter; such as the small-pox, for instance, and the measles: others again are the consequence of a dissolved state of the blood, which has been brought on by the mere continuance of violent agitation and increased heat, assisted perhaps by some putrefactive kind of ferment, (as it may be termed) either received into the body by infection, or generated there by bad diet, or other errors in regard to the non-naturals.

This last mentioned sort of eruption, termed commonly Purples or Petechiæ, is of various hues, from a bright red to livid or almost
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black,

black, and of various sizes, from little specks like small flea-bites to spots of a considerable breadth, when they are called Vibices.

These petechial eruptions scarcely ever rise above the skin, and seldom appear until the fever has lasted several days, and the sick person is considerably exhausted; neither does their striking out bring any relief.

The other kinds of eruption, for the most part, bring relief when they appear; the noxious matter being disengaged from the mass of circulating fluids, is deposited among the inert solids in the cellular part of the skin: if it be completely thrown off, the fever subsides, and all the distressing symptoms disappear; but if the quantity of acrimonious matter be too much to be thus disengaged, and some of it still remains mixed with the blood, then the fever continues, notwithstanding the appearance of the eruption. This is the case in the more violent degrees of the small-pox, measles, miliary and scarlet fever. The general conclusions then that we are to form from the appearance of eruptions, in any species of fever, are these; when the febrile symptoms greatly subside on the striking out of the eruption, we are to look on the cutaneous efflorescence as a favourable circumstance, and esteem it a sign of the happy termination of the disease; but on the contrary, when eruptions bring no relief, and the febrile symptoms of oppression, weakness, delirium, &c. rather increase, we may then infer from such eruptions, that the texture of the blood is already destroyed, perhaps beyond the reach of any remedy.

With regard to discolouring of the skin; a palish green cast, with blackish spots under the eyes, shews that the circulation is languid, and that the blood is poor and watery; if in a female, it denotes obstructed menses; and in the other sex, it is an indication of a scorbutic habit, weak bowels, and bad digestion: a livid cast in the complexion shews much the same habit of body, is an evidence of tendency

tendency to putrefaction in the general mass of fluids, and that the motions of the living solids are too languid or remiss: what is called a fallow complexion or dark muddy cast in the skin of the face, with dulness and heaviness of the eyes, is a sure sign that the biliary secretion is not properly carried on; but absolute yellowness shews the passage of either the ductus communis or ductus cysticus to be stoppt up, thus hindering the cystic bile from flowing into the duodenum, and throwing it back into the mass of circulating fluids, which carry this humour into the subcutaneous vessels, and lodge it in the cellular part of the skin.

The sweats will often point out the state and condition of the general mass of fluids, as being sometimes (though very rarely) found sour; at other times betraying a putrid smell: in some cases the sweat is found tinged with the red part of the blood, which gives it a yellowish, or even a reddish cast.

The discharge from ulcers also may inform us concerning the state of the fluids; if extremely sharp, fetid, and excoriating, it denotes high degrees of acrimony, either cancerous or approaching nearly thereto; if thin and bloody, it shews that putrefactive and dissolved state, which is of the scorbutic nature; if mild, without offensive smell, and of a curdly appearance, it points out the scrofulous taint: the discharge from venereal ulcers is sometimes equally sharp and corrosive, with that which flows from a cancer, and not easily distinguished from it, but by tracing the progress of the disease, and carefully comparing all the different symptoms and appearances.

C H A P. VI.

Signs derived from different Appearances of the Blood.

WITH regard to the information that is to be had by examining the blood, it is not so great as might be imagined, since blood taken from persons who are evidently much disordered shall sometimes appear like what is drawn from those in perfect health; and on the other hand, persons who labour under no disease shall have blood which appears like that belonging to people in dangerous diseases; as for instance, pregnant women have blood with a thick crust on it, like what is drawn from one in a pleurisy.

So that it is not an easy matter to fix a precise standard whereby to judge either of the healthy quantity or quality of the blood; neither of which can be estimated by abstract consideration, but are always to be considered as relative to the particular circumstances of age, sex, and constitution.

Before we attempt to draw conclusions from the look of the blood after it is drawn from sick people, we must recollect the appearances which it exhibits when drawn from persons in perfect health.

In general it may be observed, that blood of a deep red, which, when cold, separates into serum that is limpid and almost colourless, and a crassamentum without any thick crust of a different colour from the subjacent cruor, and which has between a third and one-half serum, is good and wholesome blood, free from morbid acrimony, and which has the due and requisite proportions of all the different constituent parts.

Hence we may judge of the morbid deviations. Blood that is of a very bright red, approaching to scarlet, and which does not soon part into serum and crassamentum, denotes that the fluids are too abundant

abundant in the saline part, and shews that there is a tendency to gout, or to hot and itchy eruptions: such blood also is often seen in cases where there is a hectic fever, or in people who feed too much on salted or highly-seasoned kinds of food.

In cases where the serum of the blood is in too great proportion, we may apprehend dropical disorders, as such a dissolved state of the blood denotes weakness in the vascular system, whence the serum will be apt to fall aside into the larger cavities, or into the cellular interstices, and there stagnate, as the lymphatics are now debilitated, and the discharges by the skin diminished.

If the serum be tinged with yellow, it is a sign that the bile is denied a passage into the duodenum, and thrown back into the general mass of fluids.

If the serum of the blood be reddish or livid, it shews a high degree of dissolution or putrescency, such as is peculiar to the scurvy, and the worst kind of putrid fevers; it is still worse if the serum be turbid, or if the whole blood appears foul and dark coloured, and the crassamentum does not separate.

When the blood parts, as it ought to do, into serum and crassamentum, if the latter be covered with a scum or crust of a whitish or buff colour, it has hitherto been deemed a certain proof that the blood is in a state of too great viscosity, and consequently that it cannot flow through the vessels, but with proportionate degrees of difficulty; and, as the blood which is drawn from patients labouring under inflammatory diseases, for the most part exhibits this appearance, it served to confirm the theory which supposed that inflammations take their rise from lentor and obstruction. But an ingenious modern physiologist accounts for the formation of the buff in a much more satisfactory way, on principles diametrically opposite; and alleges, that notwithstanding this apparent viscosity of the blood, after it is drawn and suffered to cool, yet, while it flows in the vessels, it is more fluid than in the ordinary state previous to inflammation.

It

It was formerly mentioned, that the crassamentum of the blood consists of the colouring particles united with the coagulable lymph; now, “when the arteries are acting strongly, whether the whole habit be strong or not, the coagulable lymph is more fluid, and longer in coagulating; of consequence it lets the red particles, which are the heaviest part of the blood, fall down towards the bottom before it coagulates: and upon the spontaneous separation the crassamentum is divided into two parts; the upper, consisting of the coagulum of the coagulable lymph alone (which in this case is termed the Buff); the under, consisting partly of this, and partly of the red globules *.”

The appearance of this buff has greatly engaged the attention of practitioners; Dr. Langrish, who was a strenuous assertor of the doctrine of lentor, contrived an instrument, made on the principles of the common hydrometer, for enabling him to estimate the different degrees of tenacity in the buff, and thereby regulate his practice: other people have taken other methods to examine the blood, such as drying it, to find out the proportion of the solid to the liquid part; weighing it specifically, and observing the difference between its weight and that of water; mixing it with different saline matters, decoctions of bark, ardent spirits, &c. but all these are experiments rather of curiosity than of real utility, and have generally been made in consequence of some pre-conceived theory, which the authors wished to establish.

C H A P. VII.

Signs derived from the Urine.

AS the health of the human body depends greatly on the due and regular separation and expulsion of excrementitious matters, so the examination and inspection of these, both with regard to their quality and quantity, is of equal service in leading us to

* Fordyce—Elements of the Practice of Physick. Part I. p. 5.

form just notions of the state of the body, with the observation of the pulse, or inspection of the blood.

The urine (being an excrementitious humour that is easily examined, and which frequently shews by its changes the state of the animal motions, as well as the condition of the fluids) has very much engaged the attention of physicians from the earliest antiquity.

Before we pretend to judge of the appearances in the urine of sick people, we ought to know what its state is in persons who enjoy perfect health; and here again there is a considerable latitude, as the urine will appear differently according to the time of life, and according to the manner in which people feed or exercise themselves. The urine of an infant is mild and colourless in comparison with that of an aged person, where the saline, oily, and earthy principles abound so much as to give the urine an high colour, strong smell, and considerable sharpness. The same in general may be said of the urine of a sedentary person, who uses little or no bodily exercise, and that of one who labours hard every day. The more the body is exercised the more highly impregnated is the urine with the saline, oily, or earthy particles of the blood.

The appearances of the urine likewise depend much on the quantities of drink which people accustom themselves to. Such as pour down great quantities of liquids must make a great deal of thin and pale urine, not much saturated with the oily, earthy, or saline particles; the contrary will happen to such as drink but little.

The colour of healthy urine in general may be likened to that of Rhenish or Lisbon wine; limpid throughout, and without sediment; for sediment in urine implies, that the different principles of the blood are either unequally proportioned, or not sufficiently mixed and blended together; and consequently shews some defect or deviation from the natural and sound state.

Urine,

Urine, which is limpid, watery, and in great abundance, shews that the cutaneous discharge is preternaturally diminished, and is always an attendant on hysteric or hypochondriac paroxysms, where there is a sensation of extreme cold, oppression, and frequently severe pain in some particular part, most commonly the head or loins. Urine of this sort is also frequently observed in febrile diseases, and is to be held as a bad sign, since it shews that the spasmodic stricture of the smallest arteries is very great: whence we may infer that the febrile symptoms will increase, and that we shall soon find the patient become delirious.

Pale, thin, and limpid urine, in persons where there is no disturbance or disorder of either nervous or vascular system, shews the blood to be poor and watery, it denotes that the body wants sufficient exercise, and that the solids in general are in a weak and relaxed state.

Pale and turbid urine shews the bad state of the digestive organs; that they have not sufficient power, and that the saliva, the bile, and other digestive fluids, have greatly lost their dissolvent and assimilating qualities; whence the chyle that is carried into the blood is crude and indigested, retaining too much of the original qualities of the substances from whence it was formed, as persons in these circumstances have the first passages clogged with a viscid phlegm, which favours the generation of worms: hence it is that pale and turbid urine may be held as a sign of worms.

Urine that is reddish or high-coloured, but without sediment, is a sign that the body has been over-heated, either by violent exercise or from a febrile commotion; for the colour of the urine is supposed to depend chiefly on the quantity of oil it contains, and an increased velocity in the circulation never fails to increase the absorption of oily matter from the adipose cells; so that when oil is mixed with the blood in an undue proportion, the urine will naturally come to
partake

partake of it, and put on a higher colour than what it has in people who enjoy perfect health: such urine is therefore, for the most part, found in febrile diseases; that is, so long as the spasmodic stricture remains; but when things come to a favourable crisis, and the blood is freed from those acrid matters which kept up the irritation, then the urine becomes so loaded, that it can no longer retain the oil and salts in dissolution, but is found to deposite a considerable portion of sediment.

Dr. Langrish's experiments explain this matter pretty clearly; from these it appears, that if the urine of a person in perfect health be divided into 512 parts, 494 of these will be found on the analysis to consist of a watery fluid; 12 of them will be a mixture of saline and earthy matter; 5 will be purely saline, and only one of them will be oily. But the proportions were found to differ very much in urine which was made by a young lad who had laboured under an acute fever, attended with delirium, and other very bad symptoms, until the eighth day, when a moderate sweat broke forth, and the urine let fall a great load of sediment: here, of the 512 parts, only 484 were watery, whereas the terreo-saline was 14, the purely saline 11, while the oily, instead of 1, was 3, of the whole 512.

From this difference between the urine of a person in health and that which is made at the time when a fever is going off, we plainly see the advantages to be expected from urine so loaded that it lets fall a plentiful sediment, since it denotes that those saline and oily particles, which, whilst they remained in the blood, increased the disturbance of the motions of the living solids, are now thrown off, and the spasmodic stricture in great measure removed; whence freedom and equability will be again restored to the circulation.

The colour of the sediment denotes the different condition of the fluids; thus, a yellowish sediment denotes that the flow of bile into the duodenum is by some means interrupted.

H h

A black-

A blackish sediment shews a putrescent disposition in the general mass of fluids, and is accounted a very alarming sign, being only found in those diseases where the texture of the blood is much destroyed by a putrefactive acrimony.

Great abundance of pale and viscid sediment is a sign of a relaxed habit, and of much crude and indigested humours, not only in the first passages, but also in the general mass of fluids, and may therefore be looked upon as denoting that the disease, whatever it be, will run out to a considerable length. This kind of urine is frequently observed in intermittent fevers; but it is a still worse sign in these fevers, and shews that they will probably become continual, if the urine, during the interval of the fits, though high-coloured, remains limpid, and does not let fall any sediment. The lateritious, or brick-coloured sediment, is found in the urine of hydropic patients, which is made in small quantities: this kind of red sediment is also seen in the urine made by persons in some cases of hectic and intermittent fevers, and affords but a bad prognosis.

In cases where there has been no fever, and, nevertheless, urine with much sediment is discharged, it is one sign that the biliary system is obstructed.

Urine with an oily matter floating on it, denotes that the body is in a colliquative state; for, as it is the oil of the adipose part of the cellular system, that gives the agreeable plumpness, and fulness of flesh, so when this is either preternaturally absorbed, or when it is retained in the blood, and not strained off and poured into the adipose cells, the body must necessarily fall away.

When much earthy matter sticks to the sides of the vessel containing the urine, or when there is much of this earthy sediment, it is a sign of lithiasis, or disposition in the habit to breed calculi, and more especially if any grit or gravel be found among the settlings of the urine.

Little crystals of a brownish salt, collecting on the surface of the urine, or adhering to the sides of the glass, denote the presence of a gouty or rheumatic acrimony, and are frequently seen in fevers where there is a mixture of rheumatism.

Purulent urine shews the kidneys, bladder, or prostate gland, to be ulcerated. A great load of viscid slime denotes that the inside of the bladder is much irritated by a stone, or some other offending substance.

Bloody urine also shews the presence of a rugged stone, though it may likewise arise from dissolution of the blood, from relaxation, or from rupture of the blood-vessels in the kidneys, in consequence of blows, falls, or strains. It is easy to know whether urine that is extremely red be tinged with blood or not, either by dipping white linen rags in it, which at once will shew the true colour, or by heating it in a glass; if it be blood that gives the extraordinary redness, it will concrete, and run into grumes when heated; but if it be owing to some other cause, the urine, on being heated, will grow rather more limpid, and no grumes will appear.

These are the principal signs afforded by the urine, but we are never to rely on these any more than on the signs by the pulse, without comparing them with every other circumstance: thus, for instance, if we are called to visit a patient, who has made a great quantity of pale limpid urine, we are carefully to examine whether there be any degree of disturbance in the nervous or vascular systems: if we find the nervous system affected, but the circulation little or not at all disturbed, then we are to infer that the case is hysterical or hypochondriacal, and not of a very alarming nature; whereas if we should find much disturbance in regard of the vascular system, and that there is a fever actually present, then this pale and limpid urine must warn us to expect worse symptoms, for the reasons formerly explained.

C H A P. VIII.

Signs derived from the Sweat.

THOUGH the urine, in some cases, pretty clearly shews the state of the general mass of fluids, yet it does not so clearly point out their condition as the sweat, which is a more elaborate humour, whereas the urine often consists of little more than the drink that is taken down.

The ancients made great account of examining the sweat of sick persons in regard to its smell, and even taste; though with respect to the latter mode of examination, perhaps few moderns will choose to copy them.

The matter of sweat consists of the common perspirable matter, much increased, joined to a portion of the subcutaneous oil and lymph, which are either driven out by the force of the circulation, or suffered to exude through the pores of the cuticle, when these are too much relaxed.

The principles however of this excrementitious humour are nearly allied to those of the urine, only sweat is more oily, as being strained off from the blood after it has undergone much more of the action of the vessels, and when its principles are more thoroughly incorporated.

The rules laid down by Hippocrates for judging concerning sweats in febrile diseases, are reckoned to hold good to this day, and accordingly are handed down and copied from age to age. It has been always observed, that sweats afford a favourable prognostic, which break out at the same time that the urine deposits a sediment, and when the pulse, from being very frequent and hard, shall become rather quiet and soft, and which flow not from a particular part of
the

the body, but are universal, and relieve the sick person from the oppressive load: with such circumstances sweats are reckoned salutary, and are signs that the disease is going off; more especially if this happens in the 3d, 5th, 7th, 9th, 11th, 14th, 17th, or 21st day of the fever, for on these days, as hath been already mentioned, it was remarked that beneficial changes usually happen. On the contrary, sweats which happen in fevers, on other days than these mentioned, and without signs of coction in the urine, where likewise the belly continues bound, the pulse hard and frequent, the patient remains oppressed and restless, or in great pain, then we are to look on sweating as a very bad sign, since it shews the greatness of the disease, and the high degrees of internal distress and anguish, especially near the part where the sweat most plentifully appears.

Profuse sweating, whether in continual or intermittent fevers, if it continues, shews great weakness of the solids, and denotes the crude and indigested state of the fluids, wherein the different principles are not properly blended and combined: it also argues weakness of the digestive organs, or that there is some fomes in the body arising from the corruption or ulceration of the liver, or of some other viscus. Concerning the inferences to be drawn from the smell of the sweat, they have been already mentioned.

C H A P.

CHAP. IX.

Signs derived from different Appearances of the Stools, and of the Discharges by Vomiting and Expectoration.

IT is of use also to examine the discharges by stool, as well as those by the skin and by the kidneys.

As the colour of the *fæces alvinæ* depends chiefly on the bile, we may infer from stools that are white or greyish, that the passage from the ductus communis into the duodenum is obstructed, or that the secretion of this necessary humour is interrupted; while, on the contrary, stools that are very dark shew a redundancy of bile.

Green stools, which happen so frequently to children on the breast, and sometimes to hysteric or hypochondriacal patients, shew that there is an acid *saburra* in the first passages, which, being mixed with the bile, give this colour to the *fæces*.

Bloody stools, wherein there is much blood, and that without griping, shews that the blood comes from some vessels in or about the rectum.

Black stools, with a putrid *fætor*, are the most alarming of any, as they are the signs of inward corruption and mortification; and if the pulse sinks, the strength fails, and cold sweats come on, we may pronounce death to be just at hand.

Slimy stools shew weakness of the digestive organs, and imply the presence of worms.

Watery stools denote the presence of some sharp and irritating matter; or they may proceed from mere weakness of the tubuli, which ought to furnish the liquor intestinalis; or they may also arise, which is the case often in aged people, from a hardness and infarction of the mesenteric glands, or from a stoppage of some other evacuation, generally that by the skin.

Too

Too great hardness of the excrements denotes excessive internal heat; or, in other cases, shews a defect of the intestinal mucus, or of bile, to lubricate and stimulate the inside of the intestinal canal.

Great irregularity and disturbance in regard to the discharges of the belly may, and often do, arise from causes that are merely nervous, and from passions of the mind; for, as the intestines are plentifully stored with nerves, they cannot but be affected when this part of the living solids is disturbed. And hence it is, that a regular state of the bowels (the patients going to stool as is usual to them in perfect health) may be always held as a good sign in diseases, since it denotes that the nervous system is little, or not at all, disturbed or affected.

The same may be said of the stomach, and appetite for food; while this holds good, the motions of the living solids cannot be much disturbed; though the gross fluids may be greatly disordered, and the blood be nevertheless in a very corrupted state: as, for instance, in that terrible disease the putrid scurvy, the appetite for food is usually observed to hold out almost to the last.

When yellow matter is thrown up in great abundance by vomiting, it denotes an exuberance of bile; when green stuff comes up, it shews the presence of the most sharp kind of acid saburra, and denotes great disturbance in the nervous system; vomiting of blood seldom happens but from obstructed menstrua, and will be found a pretty certain sign of this obstruction; but vomiting of black and fetid matter, in acute diseases, may be reckoned a sign of approaching death, as it seldom happens but from some inward mortification; vomiting of pituita, or viscid and insipid slime, shews great weakness of the stomach, and plainly points out the use of strengthening bitters.

With

With regard to the signs by expectoration, and appearance of the different kinds of matter spit up from the lungs; when abundance of tough phlegm or mucus is coughed up, without much difficulty or pain, it denotes that the mucous glands, which are dispersed through the lungs, are in a state of morbid relaxation; but when only small quantities of white frothy phlegm are brought up, after severe coughing, accompanied with an habitual difficulty of breathing, we may infer that the glands above-mentioned are in a hardened or scirrhus state: expectoration of purulent matter plainly shews the lungs to be ulcerated: pure blood, florid and frothy, when spit up in large mouthfuls, proves that some of the pulmonary blood-vessels are ruptured; but when blood is only mixed with the purulent or mucous spitting, we may presume that it comes from vessels which are too much relaxed or weakened.

C H A P. X.

A synoptical View of what is contained in Hippocrates, relating to the Prognosis in Diseases.

WITH respect to the general prognosis in diseases, Hippocrates is universally allowed to excel any who have come after him, and it is chiefly on this account that his works are valuable; we therefore presume that the reader will be obliged to us for the following extract, from a very scarce book, the “*Meletemata Medicinæ Hippocraticæ*” of Vander Linden, who was at the pains of collecting the different passages which relate to this subject, and of placing them in opposite columns, so as to shew at one view what the appearances are which may be held as good signs, and denote a favourable termination of the disease, and those which must be considered as bad, and enable the physician to foresee distress and danger.

S I G N A.

B O N A.

M A L A.

Ratione quovis in morbo valere.

Ratione non valere. Delirare: inprimis fractis viribus, aut sensim ferociter, aut cum tremore, spirituve difficili & sudore aut singultu. Præter consuetudinem responsum dare ferox aut audax: loqui multum, aut raro, aut numquam: per vices multum loqui & obstinate tacere: aliudve non solitum facere. Frequenter & frustra screare: sputare: ori manum admoveere: muscas venari: festucas colligere: de stragulis flocos, aut de pariete paleas carpere. Familiæ non agnoscere. Oblivisci eorum, quæ geruntur.

Somnum bene capere. Somnum non bene capere. Dormiendi Interdium vigilare, noctu dormire, aut saltem mane ad tertiam diei partem. Somnus profundus, et compositus. Et qui quovis in morbo profit: delirium fedet: convulsionem solvat. Expergisci suaviter.

Videre bene.

Non videre. Oculos obferari: perfringi: hebescere: obtundi: caligare: vertigine tenebricosa tentari: lucem splendoremve fugere vel averfari: fixis intueri: frequenter agitare.

B O N A.

M A L A.

Audire bene.

Non audire, aut obtuse, aut inæqualiter:
fursum fieri.

Sentire bene.

Non sentire: nedum dolentes dolorem.
Torpor in contraria celeriter permutatus.
Dolor capitis pertinax: auris intensus: cer-
vicis: faucium sine tumore pusillus et stran-
gulans: in pectore fixus cum torpore: oris
ventriculi: præcordiorum cum impotentia
loquendi: circa viscera vehemens: circa
umbilicum cum palpitatione: lumborum:
ex femore: cubiti: genuum: manuum ac
pedum.Motus membrorum
omnium promptos ha-
bere, et similimos fanis.
Facile se convertere: et
in sublevando se, levem
esse.Motus impotentia. Jactatio crebra. Dif-
ficulter converti, et gravem esse, cum reli-
quo corpore, tum manibus ac pedibus. Col-
lum vertere non posse. Lingua torpida aut
resoluta. Agitatio ejus difficilis.Εὐφορία, quæ in quiete
corporis et tranquillita-
te animi consistit, et
ex utriusvis indolentia
procedit.Δυσφορία, sive animi anxietas et æstua-
tio, corporisque inquietudo et jactatio atque
dissectio. Tantum mala non est, quam ri-
gor sequitur judicatorius, supervenientibus
fudoribus, vel vomitionibus commodis, vel
alvo subducta.Convulsio eadem die
definens.Convulsio omnis præter propositam. Dis-
torqueri velut qui vomitione conflictantur.
Palpitationes in totum. Perversio labii.
Linguae revulsio tremula: commansio. Cal-
cium jactatio.

Tremores,

B O N A.

M A L A.

Tremores, qui humilibus coctis et agitari incipientibus superveniunt.

Sternutatio in morbis, qui ad pulmones non attinent, etiam lethalissimis: quin et in doloribus circa caput ac frontem.

Singultus, cum vomitionem criticam antecedit.

Horror postridie repetens in iis, qui horruerunt et judicatorie exsudarunt.

Rigor quotidianus, febre ardente laboranti superveniens.

Vox libera et expleta.

Tremores in principio morborum: aut ex siccitate in febribus: itemque parvi.

Sternutatio in omnibus circa pulmonem morbis.

Singultus semper malus: praesertim si ex inanitione fiat.

Horrores crebri ex dorso: crebri et tenses cum sudoribus tenuibus: post sudorem: in doloribus.

Rigores crebri ex dorso: continentes: multi cum torpore: cum sopore: cum posteriorum partium distensione: cum aestu: cum perversione oculorum: cum exolutione virium: cum suppressione urinæ: cum judicatione: ægro jam debili: die sexto.

Vocis defectio: inprimis cum singultu, aut exolutione virium, aut respiratione elata et conspicua, aut ignorantia, aut insania, aut crebro rigore, aut dolore, aut ex dolore, aut post judicationem: quæve speciem præ se convulsionis fert. Obscure loqui.

B O N A.

M A L A.

Respiratio facilis: rari-
rior ac lenior.

Respiratio difficilis: crebra: magna et
rara: magna et frequens: sublimis: con-
spicua: minuta: obscura: tufficula suspi-
ciosa, luctuosa: stertorosa: coacervata: of-
fendens: velut revocata et ingeminata: du-
plicata: subito revulsa: convulsiva: frigida
ex naso et ore: calida: turbida.

Virium robur atque
constantia.

Virium imbecillitas: lipothymia: lipop-
fychia: palpitatio cordis.

Pulsus vehementes,
magni, frequentes, rari,
undosi, dicroti, æquales,
ordinati, adeoque om-
nes, qui in sanis notari
solent.

Pulsus languidi, parvi, concitati, inæ-
quales, inordinati, intermittentes, intercur-
rentes, myuri, vermiculantes, formicantes,
et quotquot à cujusque sani modo longius
recesserum.

Cibum bene appetere,
saltem oblatum non re-
cusare, nedum fastidire.

Cibum non appetere, etiam oblatum re-
cusare, aut fastidire. Pauco expleri. Belle
comedenti corpus non proficere.

Sitire, quum oportet:
aut non sitire, quum
non oportet.

Sitire, quum non oportet: aut non sitire,
quum oportet. Sitis præter rationem solu-
ta, aut valde urgens, aut crebro permutata,
sive vicibus multa et nulla.

Dejectio iussa.

Dejectio invita: fallens ægroti sensum, et
clam prodiens: labore frequens, conatu ir-
rita.

Urina, quum opus
reddita, et bene tum
procedens.

Urina non recordanti profluens.

Decubitus

B O N A.

M A L A.

Decubitus talis, qualis esse fanis consuevit: scilicet in latus dextrum aut sinistrum, cervice, manibus, cruribusque reductis, et corpore toto molliter posito: pedibus item, et pectore probe tectis.

Lacrymæ quibus in febribus aliisve morbis voluntarie profluunt, absurdum non est.

Lemas circa oculos non apparere.

Sordes in auribus amara.

Sanguinis è naribus fluxiones largæ, septimo, nono, aut quarto decimo die, è directo, et cum signis coctionis.

Salivatio in fomnis cum sudore.

Sputa, cujusmodi in fanis: insipida videlicet, alba, lævia, æqualia, neque tenuia nimis, neque crassa,

Decubitus in ventrem: supinus, cervice, manibus, pedibusque extensis, et inæqualiter dispersis, aut valde contortis. Ægrum in ipso morbi vigore velle residere: aut ad pedes provolvi, eosve nudos habere.

Lacrymæ, quibus quocumque in morbo præter voluntatem effluunt.

Lemæ aut fordes circa oculos concretæ.

Sordes in auribus dulcis.

Sanguinis fluxiones parvæ: plures: multæ et vehementes: biliosæ: immodicæ: meracæ: repentinæ æstivo et autumnali tempore: quarto die, aut undecimo: è contrario, et adversa parte; cum signis pravis: stillationes: valde rubicundæ.

Salivare mente motis: inter loquendum.

Sputa sanorum dissimilima. A faucibus diu cruda: subarida: crebra: viscida, crassa, exalbida, vieducta. A pectore biliosa et purulenta: candida, glutinosa, flava, rufa, sincera,

B O N A.

M A L A.

crassa, quæque promte et facile exspuuntur, quæque levitas et fastidii cessatio sequuntur.

A capite crassa, nec olentia. A pectore similia puri: permista bile flava, non multo sanguine, mucosa, fuliginosa, quæ colorantur, et cito maturantur, et facile egeruntur.

Vomitus mixtus ex bile ex pituita, non multus, non crassus; aut cujuscemodi sponte fieri solet.

Dejectio mollis figurata, atque eodem fere tempore, quo secunda valetudine affuevit, modoque conveniens his, quæ assumuntur. Aut liquida non stridens, neque crebro, neque paulatim secedens: sed bis aut ter interdiu, noctu semel; plus tamen

sincera, viridia, nigra: valde sanguinolenta, æruginosa, spumosa, viscosa: livida, fetida: dulcia: tarde aut difficulter prodeuntia: dolorem non sedantia: rotunda.

Vomitus meracus: varius, tum alias, tum si sese mutuo consequuntur: biliosus: porraceus: æruginosus: viridis, niger, lividus, ruber, aut omnium colorum: ater: sanguinolentus: malus, supputris et fetidi odoris: exiguus biliosus: parvus et frequenter repetens: anxiosus.

Dejectio cita. Sed ne hæc quidem terrere protinus debet, si matutinis temporibus coacta magis est, aut si procedente tempore paulatim contrahitur, et rufa est, neque foeditate odoris similem alvum sani hominis excedit. Terribilis contra omnis æruginosa: alba: aquosa: atra: bile abunde colorata: biliosa cum efflorescentia spumosa: candidans: circumbiliosa: cruenta: decolor valde: exigua: farinæ similis et stercoreosa: fetida: abunde fermentata: friabilis: glutinosa: grave-

B O N A.

men prima luce, pro consuetudine cujusque: et crassior à morbo ad judicationem eunte, et aliquatenus fulva; five subrufa, nedum præter naturam olens.

Urinæ mediocres, et pro ratione crassescen-tes. Colore citrinæ: subrubicundæ. Sedi-mentum album, læve, æquale, toto tempore ju-dicationis: subrubrum et leve in urina simili: multum. Ἐπινέφελον ru-brum cito apparens. Nubecula alba et deor-
fum vergens.

Sudores, qui cœpe-rint die tertio, quinto, septimo, nono, undeci-mo, decimoquarto, de-
cimo-

M A L A.

graveolens: lævis: larga: limosa: liquida: livida: maculis nigris distincta: meraca: multa cum nigris: nigra: pallida cum vi-rore: perfrigerans: pinguis: pituitosa: por-racea, prærubra: sanguinis splendidi aut grumosi: sicca: neque cohærens: spumosa: stercoracea: strigmentosa: subcrocea: sub-friabilis liquida: subpallida cum virore: subpituitosa: subrubra: tenuis: varia; five simul inter se mixta, five per vices pro-deant: cum sedimento aqueo et pallido virescente, aut limoso et sublivido, aut pu-rulento, eoque puro aut cruentis ramentisve mixto.

Urinæ aquosæ: biliosæ: crassæ primum deinde tenues: crudæ: cruentæ: albæ pel-lucidæ tenues: turbatæ cum fodore: tur-bidæ: jumentorum instar. Colore albæ, præsertim valdæ æruginosæ: fulvæ: nigræ: rubicunda valde. Odore foetidæ. Sedimen-tum instar crassioris farinæ, squamularum, furfurum: genituræ simile. Nubecula ni-gra: sursum lata. Contentum pingue et instar aranæ: arenosum: pelliculosum: purulentum.

Sudores, qui aliis, quam recens diebus, aut intempestive fiunt: multi et frigidi: continui et multum debilitantes: multi cum acutis febribus, aut repentina impotentia:
acervati

B O N A.

M A L A.

cimoseptimo, vicesimo-
primo vicesimoseptimo,
tricesimoprimum et trice-
simo quarto. Ii enim
sudores morbos judi-
cant: præsertim si ex
toto corpore profluunt
calidi et tenues; fiant-
que in somnis, cum eu-
phoria.

Pus album, læve, æ-
quale, et quam minime
graveolens; ejusdem co-
loris; atque expers pi-
tuitæ.

Lumbricos descendere
eunte morbo ad crifim.

Flatus sine fonitu ac
crepitu exiens.

Corpus totum æqua-
liter calidum esse ac
molle. Icterus die sep-
timo, aut nono, aut un-
decimo, aut quartodeci-
mo superveniens citra
duritiem hypochondrii
dextri.

Facies benevalentium
similis: in magnis mor-
bis

acervati in convulsionibus: circa caput, fa-
ciem, et collum: circa frontem graveolens:
à fronte incipiens: circa pedes et crura.

Pus lividum, aut ex pallido virescens:
subcruentum: pituitosum: spumans: qualis
amurca: lutulentum, et graveolens: ad fun-
dum subsidens.

Lumbricos per os exire.

Flatus non erumpere; sed revolvi: aut
cum fonitu prodire.

Corpus totum grave: frigidum: morti-
ferum: febricitantium non omnino leviter
constare sibi, nec minui, aut etiam plus
æquo colliquefieri: icterus superveniens duro
hypochondrio.

Faciei color alius à naturali: utpote pal-
lidus, niger, lividus, aut plumbeus: bonus
cum

B O N A.

M A L A.

bisconstans: ex tumida
facta depressa.

cum vultu tetrico: cum mœstitia: cum in-
diis: flammeus cum sudore: bene habita in
febris: aut in parvis morbis prava: tristis:
circumtenfa et contracta: corrupta.

Frons sanorum simi-
lima.

Frons dura, intenta, arida: contracta:
frigida: venæ circa eam tumidæ.

Oculi albi, clari, lu-
cidi, et omnino sanorum
similimi. Album ex
nigro aut livido clarum
fieri.

Oculi rubicundi, squalentes, obscuri, tu-
midi, aut venulæ in albo livescentes, aut
nigricantes, alter altero minor: concavi:
colorati natantes velut dormitantium: pul-
vere obfiti: expressi foras: intente splen-
dentes: ferocientes: ficci: arescentes sicut
spuma: subapparitiones in somnis.

Palpebræ naturaliter
constitutæ.

Palpebræ livescentes: perversæ: circum-
tenfæ: non commissæ: aut commissis ali-
quid ex albo subapparere: cilia retorta.

Aures naturaliter
habentes.

Aures frigidæ, pellucidæ, contractæ: ex-
tremities earum inversæ. Aurium rubores,
sonitus, aut tinnitus.

Tempora fanis si-
milia.

Tempora collapsa.

Nasus sano similis.

Nasus lividus: pallidus: acutus, perver-
sus.

Malæ, quales esse sa-
no solebant.

Malarum rubor. In malas et labia dor-
mientium instar inflare.

Labia sese ut in sano
habentia.

Labia perversa, resoluta et pendula, fri-
gida, exalbida: livescentia.

Dentes puros manere.

Dentibus lentores obnascentes: stridere:
siderari.

K k

Lingua

B O N A.

M A L A.

Lingua recte se habens: non decolor: aut biliosa: aut ejus difulcum velut saliva alba obductum.

Fauces humidæ et naturali modo constitutæ.

Collum rubere, præfertim in anginosi.

Hypochondria mollia, æqualia, et doloris expertia.

Venter mollis et bene tumidus: et partes, quæ ad umbilicum et imum ventrem sunt, crassitudinem habere.

Genitale et testes naturaliter penduli.

Extrema calida et naturaliter habentia.

Lingua adusta: æstuosa: ardens: arida: aspera et valde densa: bulla sublivida in ea apparens: combusta: densa et valde arida: fuliginosa arida: horrida statim, postea exasperata, fissaque: livida: mollis præter rationem: nigricans: obscura peripneumonica: pallida albicans: rubicunda resiccata: ficca: cum efflorescentia aspera pallida et albicante.

Fauces exulceratæ.

Collum durum: perfrigescens.

Hypochondria intenta, et inæqualiter affecta dextra ad sinistra, aut inflammata, aut pulsatio in iis, aut tumor durus et dolens: sublimia.

Venter in tumorem sublatu: valde calidus: aut ardens velut in volvulis: æstus circa ventriculum vehemens.

Genitale et testes sursum contracti.

Extrema frigida: livida: sublivida: non recalescentia: in utrumque celeriter mutata. Externa algere, interna uri.

Manus

B O N A.

M A L A.

Manus modice calidæ, et qualis sanis esse consueverunt.

Pedes moderate calidi, et quales esse sanis solebant.

Ungues naturalibus similimi.

Cutis mollis et bene habita.

Manus frigidæ, velut congelatæ: macula livida circa illam. Carpus extimus frigans, brachio et manu tepentibus.

Pedes non admodum calidi: calidi in horroribus: frigidi: frigidi instar lapidis: lividi: omnino nigri: tepidi.

Ungues lividi: curvi.

Cutis arida.

Propositis, quæ ægrotantibus, aut spem promittunt, aut metum portendunt: superest, ut et ea, quæ mortem denunciant, proponamus. Ea vero quasi duûm generum sunt: quædam namque futuram, quædam præsentem mortem testantur. Futura denunciatur, ubi æger supinus cubat, eique genua contracta sunt: ubi deorsum ad pedes subinde delabitur: ubi brachia et crura nudat, et inæqualiter dispergit, neque iis calor subest: ubi hiat: ubi assidue dormit: ubi is, qui mentis suæ non est, neque id facere sanus solet, dentibus stridet: ubi ulcus, quod aut ante, aut in ipso morbo natum est, aridum, et aut pallidum, aut lividum factum est. Illa quoque mortis indicia sunt: carpi frigidi: ungues digitique pallidi: frigidus spiritus: aut si manibus quis in febre, et acuto morbo, vel insania, pulmonisve dolore, vel capitis, in veste floccos legit, fimbriasve deducit, vel in adjuncto pariete, si qua minuta eminent, carpit. Dolores etiam circa coxas et inferiores partes orti, si ad viscera transferunt, subitoque desierunt, mortem subesse testantur; magisque, si alia quoque signa accesserunt. Neque is servari potest, qui sine ullo tumore febricitans, subito strangulatur, aut devorare salivam suam non potest: cuive in eodem febris corporisve habitu cervix invertitur, sic ut devorare æque

nihil possit: aut cui simul et continua febris et ultima corporis infirmitas est: aut cui, febre non quiescente, exterior pars friget, interior sic calet, ut etiam sitim faciat: aut qui, febre æque non quiescente, simul et delirio et spirandi difficultate vexatur: aut qui, epoto veratro, exceptus distentione nervorum est: aut qui ebrius obmutuit. Is enim fere nervorum distentione consumitur, nisi aut febris accessit, aut eo tempore, quo ebrietas solvi debet, loqui coepit. Mulier quoque gravida acuto morbo facile consumitur: et is, cui somnus dolorem auget: et cui protinus, in recenti morbo, bilis atra vel infra vel supra se ostendit: cuive alterutro modo se promittit, cum jam longo morbo corpus ejus esset extenuatum et confectum. Sputum etiam biliosum, et purulentum, sive separatim ista, sive mixta proveniunt, interitus periculum ostendunt. Ac, si circa septimum diem tale esse coepit, proximum est, ut is circa quartumdecimum diem decedat, nisi alia signa mitiora pejorave accesserint, quæ quo leviora graviorave subsequuta sunt, eo vel ferio rem mortem, vel maturiorem denunciant. Sudor quoque frigidus in acuta febre pestiferus est: atque in omni morbo vomitus, qui varius et multorum colorum est; præcipueque, si malus in hoc odor est. Ac sanguinem quoque in febre vomuisse, pestiferum est. Urina vero fulva et tenuis esse in magna cruditate consuevit, et sæpe, antequam spatio maturescat, hominem rapit. Itaque si talis diutius permanet, periculum mortis ostendit. Pessima tamen est, præcipueque mortifera, nigra, crassa, mali odoris. Atque in viris quidem, et mulieribus talis deterrima est. In pueris vero, quæ tenuis et diluta est. Alvus quoque varia, pestifera est; et quæ strigmentum, sanguinem, bilem, viride aliquid, modo diversis temporibus, modo simul, et in mistura quadam, discreta tamen repræsentat. Sed hæc quidem potest paulo diutius trahere. In præcipiti vero jam esse denunciat, quæ liquida, eademque vel nigra, vel pallida, vel pinguis est; utique, si magna foeditas odoris accessit.

Præsentem mortem, sive ad ultima ventum esse testantur, nares acutæ, collapsa tempora, oculi concavi, frigida languidaque aures

t imis partibus leniter versæ, cutis circa frontem dura et intenta, color aut niger aut perpallidus, multoque magis, si ita hæc sunt, ut neque vigilia præcefferit, neque ventris resolutio, neque inedia. Ex quibus caussis interdum hæc species oritur, sed uno die finitur. Itaque liutius durans mortis index est. Si vero in morbo vetere jam triduo talis est, in propinquo mors est: magisque, si præter hæc oculi quoque lumen refugiunt, et illacrymant; quæque in iis alba esse debent, rubescunt; atque in iisdem venulæ pallent; pituitaque in iis innatans, novissime angulis inhærescit; alterque ex his minor est; iique aut vehementer subsederunt, aut facti tumidiores sunt: perque somnum palpebræ non committuntur, sed inter has ex albo oculorum aliquid apparet; neque id fluens alvus expressit: eademque palpebræ pallent, et idem pallor labra et nares decolorat: eademque labra, et nares, oculique, et palpebræ, et supercilia, aliquave ex his pervertuntur: isque propter imbecillitatem jam non audit, aut non videt; et pulsus formicatur ac deficit; et respiratio in pulmone primum, mox gutture stridet.

A M E.

METHODICAL INTRODUCTION
TO THE
THEORY of PHYSIC.

BOOK VI.

General Scheme to preserve Health.

CHAP. I.

Rules for the Management of Valetudinarians.

THAT part of phyfic which teaches to preserve health, and prevent diseases, (termed Hygieine) is not to be strictly understood as if it respected only people who enjoy perfect health, and who are under no apprehensions of disease, for such seldom either desire or attend to medical advice; but should rather be considered as relating to valetudinarians, or to such as, though not actually sick, may yet have sufficient reasons to fear that they will soon become so; hence it is that the rules must be applied to correct morbidic dispositions, and to obviate the various things that were shewn to be the remote or possible causes.

From the way in which the several temperaments are usually mentioned by the systematic writers, it should seem as if they meant that every particular constitution must be referred to one or **other** of the four; but this is far from being reducible to practice, since by much

the greater number of people have constitutions so indistinctly marked, that it is hard to say which of the temperaments they belong to.

When we actually meet with particular persons who have evidently either

- (1.) Too much strength and rigidity of fibre, and too much sensibility;
- (2.) Too little strength, and yet too much sensibility;
- (3.) Too much strength, and but little sensibility; or,
- (4.) But little sensibility, joined to weakness;

we should look on such persons as more or less in the valetudinary state, who require that these morbid dispositions be particularly attended to, lest they fall into those diseases which are allied to the different temperaments.

People of the first-mentioned temperament being liable to suffer from continued fevers, especially of the inflammatory species, their scheme of preserving health should consist in temperate living, with respect both to diet and exercise; they should studiously avoid immoderate drinking, and be remarkably cautious lest any of the natural discharges be checked. People of this habit bear evacuations well, especially bleeding; they ought not however to lose blood but when they really require to have the quantity lessened, because too much of this evacuation would be apt to reduce the constitution to the second-mentioned temperament, wherein strength is deficient, but sensibility redundant.

Persons of the second temperament are remarkably prone to suffer from painful and spasmodic diseases, are easily ruffled, and those of the softer sex, who have this delicacy of habit, are very much disposed to hysterical complaints. The scheme here should be, to strengthen the solids by moderate exercise, cold bathing, and chalybeate waters; particular

particular attention should constantly be had to the state of the digestive organs, to prevent them from being overloaded with any species of saburra which might engender flatus, or irritate the sensible membranes of the stomach and intestines, from whence the disorder would soon be communicated to the whole nervous system: persons of this constitution should never take any of the drastic purges, nor stronger emetics; neither should they lose blood but in cases of urgent necessity; but a principal share of management, in these extremely irritable constitutions, consists in avoiding all sudden changes of every sort, especially those with respect to diet and cloathing, and in keeping the mind as much as possible in a state of tranquillity: hence the great advantages which people of this frame derive from the use of medicinal waters drunk on the spot, because of that freedom from care and serious business of every kind, which generally obtains in all the places laid out for the reception of valetudinarians.

The third-mentioned temperament, where there is an excess of strength and but little sensibility, does not seem remarkably prone to any distressing or dangerous species of disease; and therefore it can hardly be supposed that persons so circumstanced will either of themselves think of any particular scheme of management, or have recourse to the faculty for their instructions; such constitutions, however, we may observe, bear all kinds of evacuations well, and sometimes require them to prevent an overfulness, which might end in an oppression of the brain, or some other organ of importance.

But the fourth temperament, where we have weakness joined to want of sensibility, is exceedingly apt to fall into tedious and dangerous diseases, arising from a defect of absorbent power in the proper sets of vessels, and from remissness of the circulation in general: whence corpulency, dropsy, jaundice, and different degrees of scorbutic affection. In order to prevent these, or any other species of accumulation and depravation of the animal fluids, the people of this

constitution should use a generous course of diet, with brisk exercise, and be careful that none of the secretions be interrupted, nor any of the natural discharges suppressed; these constitutions bear purging well, and often require it; as also the use of emetics, which are frequently found necessary to supply the place of exercise, by agitating the abdominal viscera, and are of service to prevent the stagnation of bile, or the accumulation of mucous humours, which hinder digestion, and clog the first passages. The free use of mustard, horseradish, and the like sort of stimulating dietetics, is serviceable in these torpid habits.

So far with respect to the morbid dispositions of the living solids; let us next mention briefly the methods to be pursued for preventing diseases from the part of the gross fluids.

When the general mass of fluids is accumulated beyond what is conducive to the perfection of health, there arises what the writers term a Plethora, which may prove the source of different diseases; and therefore, when this overfulness begins to produce languor and oppression, care should be taken in time to reduce the body to a proper standard, by abridging the food and increasing the natural discharges, using more exercise, and indulging less in sleep.

But in opposite circumstances, where the fluids have been exhausted, we are to endeavour the prevention of further waste by the use of strengthening stomachics, nourishing diet, and indulgence from fatigue of body or mind.

Vitiated fluids are to be considered as affected either with the different kinds of general acrimony, acid, putrefactive, muriatic, &c. or as betraying signs of some of the species of morbid matter, which give rise to particular diseases, such as gout, rheumatism, stone, scurvy, &c.

During the state of infancy, we may sometimes observe a remarkable acidity, which not only shews itself in the first passages, but also
seems.

seems to contaminate the general mass of fluids. As it takes its rise, however, from weak bowels, our views, when we mean to prevent the ill consequences, must be chiefly directed to strengthen the digestive organs, as on their soundness the preparation of good chyle depends; and hence small doses of rhubarb and chalybeates (either the natural chalybeate waters mixt with milk, or the flores martialis in doses of a few grains, according to the age of the child) are to be administered; and the diet is to be so regulated as not to add to this acid tendency; brisk exercise is likewise to be joined with frictions on the stomach, belly, and lower extremities.

Where the fluids tend to the putrefactive state, which shews itself by rottenness of the teeth, sponginess and bleeding of the gums, a bloated look and livid cast; the diet then should be chiefly of fresh vegetables, and ripe fruits, with wine in moderation, brisk exercise, and strengthening bitters.

Where a sharp muriatic acrimony shews itself by itching eruptions, uncommon thirst, and flushing heats, nothing will answer better than such sulphureous waters as the Harrowgate and Moffat in Britain, or the Lucan and Swadlinbar in Ireland; at the same time using a course of diet that shall neither be acrid nor heating.

So far with respect to those kinds of morbid matter which do not invariably produce a particular species of disease; but there are others of a specific nature, some of which are generated in the body spontaneously, and seem to arise from errors in diet, or other circumstances of ill management with respect to the animal œconomy; and hence it is sometimes possible, in some degree, if not altogether, to prevent the ill consequences. Thus, there are instances where returns of the gout have been prevented by adhering strictly to a milk diet.

The rheumatism has also been sometimes warded off by wearing a flannel shirt, or by using the cold bath without interruption.

The stone may be retarded in its progress, and prevented from creating much distress, by the internal use of soap and lime-water, or by soap-lees, taken in milk or veal-broth.

The putrid scurvy may be prevented by warm cloathing, and perseverance in brisk exercise, by drinking wine or cyder, and eating freely of such sound vegetable substances as can be had in those situations where this disease is most apt to shew itself.

In constitutions where there is an hereditary disposition to the scrofula, if early precautions be taken to strengthen the solids by cold bathing, a nourishing course of diet, and moderate use of wine, the acrimony which gives rise to the disease will probably be prevented from producing any very bad effects.

The other kinds of morbid matter, which are of the specific nature, are received into the body by infection or contagion.

The infection of a putrid fever or dysentery is best prevented by immediately taking an emetic on the first attack of the sickness or shivering; and if that does not completely answer, let a large blister be applied between the shoulders; by this method the nurses and other attendants on the sick in the naval hospitals, have often been preserved.

As to the contagious morbid matters; it has been alleged that the ill effects of the bite of a mad dog may be prevented by using the cold bath, and taking a powder which was inserted in former editions of the London Dispensatory, under the name of Pulvis Antilyssus. But with a greater probability of success, we should use mercurial frictions; rubbing in the ointment gradually so as to raise a slight salivation, and keep up the spitting for some weeks, at the same time lay a little blister on the part which was wounded, and take care to keep the sore running for a reasonable time.

It has also been affirmed, that the bite of a viper may be rendered harmless, by rubbing the part with the viper's fat, or with common olive oil. Some of the French academicians, who made trials with oil, as an antidote to the bite of a viper, say, that it is not to be depended on; but the experiments succeeded better in England, as we may see in the Philosophical Transactions.

The ill effects which may arise from the different species of *faburra* are to be obviated, in general, by the prudent administration of emetics, and carefully abstaining from such kinds of food as have been already mentioned, when we shewed the causes of the accumulation of noxious matters in the first passages.

Crude vegetables, milk, butter, and other oily substances, are to be avoided by persons troubled with a sourness in the stomach; brisk exercise, especially riding, is to be used, and they are to refrain from fermented liquors; the common drink should be pure water, or water with a very little of some ardent spirit, such as rum or brandy. The use of strengthening bitters, with the acid elixir of vitriol, from ten to twenty drops, will be found serviceable, in order to strengthen the fibres of the stomach, and promote the expulsion of its contents, thereby preventing the too hasty fermentation of the alimentary mixture. In order to procure immediate relief, the *magnesia alba*, or *creta præparata*, will seldom fail; and the *magnesia* as well as the other may be made into lozenges, with a little sugar and mucilage, and in that form may be carried about, and taken occasionally by people afflicted with the acid *faburra*.

In constitutions where there is an exuberance or stagnation of bile, and a troublesome bitterness in the mouth, it is necessary to keep the bowels always free, by taking occasionally small doses of *oleum ricini*, cream of tartar, or some of the common purging salts, or the natural purging waters,

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When there is a tendency to the empyreumatic and rancid saburra, people should carefully avoid all the various kinds of those oily and high-seasoned things generally termed Made-dishes, and eat sparingly of plain meat, without rich sauces or much gravy; and in these cases the properest drink is pure water.

C H A P. II.

Rules for those who enjoy perfect Health.

THERE can be no doubt that, in general, temperance is the true foundation of health, and yet the ancient physicians, as we may see in the rules laid down by Celsus, did not scruple to recommend indulgence now and then, and allowed people to exceed both in eating and drinking; but it is safer to proceed to excess in drink than in meat; and if the debauch should create any extraordinary or distressing degree of pain or sickness, and a temporary fever should ensue, there are two ways of shaking it off, either to lie in bed and encourage perspiration, or to get on horseback, and by brisk exercise restore the body to its natural state. The choice of these two methods must always be determined by the peculiar circumstances of the parties concerned; and from the experience which they may have had, which agrees best with them.

If a person should commit excess in eating, especially of high-seasoned things, with rich sauces, a draught of cold water, acidulated with spirit of vitriol, will take off the sense of weight at the stomach, and assist digestion, by moderating and keeping within bounds the alimentary fermentation, and thus preventing the generation of too much flatus. The luxury of ices may be here of real service at the tables of the great, as producing similar effects with the cold water acidulated. Persons in these circumstances ought not
to

to lay themselves down to sleep, but should keep up and exercise until they are sensible that the stomach is unloaded, and that they no longer feel any oppressive weight about the præcordia.

If a man is obliged to fast, he ought, if possible, during the time, to avoid laborious work: after suffering severe hunger, people ought not at once to gorge and fill themselves; nor is it proper, after being overfilled, to enjoin an absolute fast; neither is it safe to rest totally immediately after excessive labour; nor suddenly fall to hard work after having been long without motion: in a word, all changes should be made by gentle degrees; for though the constitution of the human body be such that it can bear many alterations and irregularities without much danger, yet, when the transitions are extremely sudden, they cannot fail of producing some kind or degree of disorder.

It is also the advice of Celsus to vary the scenes of life, and not confine ourselves to any settled rules; but as inaction renders the body weak and listless, and exercise gives vigour and strength, people should never long omit riding, walking, or going abroad in a carriage; fencing, playing at tennis, or dancing, as each shall be found most agreeable or convenient, are to be used in their turns, according to the circumstances and tendency to any particular species of disease. But when the weakness of old age shall have rendered the body incapable of all these, then dry frictions with the flesh brush will be extremely requisite to preserve health, by accelerating the flow of humours through the smallest orders of vessels, and preventing the fluids from stagnating too long in the cellular interstices of the fleshy parts.

Sleep is the great restorer of strength; for, during this time, the nutritious particles appear to be chiefly applied to repair the waste, and replace those that have been abraded and washed off by the labour.

labour and exercise of the day; but too much indulgence in sleep has many inconveniences, both with regard to body and mind, as it blunts the senses and encourages the fluids to stagnate in the cellular system; whence corpulency, and its necessary consequences, languor and weakness.

The proper time for sleep is the night-season, when darkness and silence naturally bring it on; therefore day-sleep in general is not refreshing, and to some people really distressful, as creating an unusual giddiness and languor, especially in persons addicted to literary pursuits; custom, however, frequently renders sleeping in the day necessary, and in those constitutions where it is found to give real refreshment it ought to be indulged.

With regard to the general regimen of diet, it has always been held as a rule, that the softer and milder kinds of aliment are most proper for children and younger subjects; that grown persons should eat what is more substantial; and old people lessen their quantity of solid food, and increase that of their drink.

Such readers as wish to be completely informed concerning the rules for preserving health, will find them particularly laid down in Mackenzie's History of Health, who has given a summary view of all that has been written on this particular part of physic; and as he published his book when near eighty years of age, it is to be presumed that he was a competent judge of what was proper to be enjoined.

A
METHODICAL INTRODUCTION
TO THE
THEORY of PHYSIC.
BOOK VII.

General Scheme of curing Diseases.

CHAP. I.

General Methods of Cure, with respect to disordered Motions in the Vascular System.—Intenseness.

AS the morbid dispositions and remote causes are what we ought to have in view when we endeavour to prevent diseases, so the actual or immediate causes are the things which we must consider when we mean to alleviate or cure them. The Therapeia therefore is to be chiefly directed, so as to obviate and remove the actual causes, whether the disease be universal, consisting of the general symptoms; or local, depending on the disorder of some particular part of the corporeal frame.

It has been often mentioned, that the immediate causes of the fifteen general symptoms which predominate in universal diseases are reducible to intenseness and irregularity, remissness and suspension of the motions carried on in the vascular and nervous systems; hence we may easily see what the general indications of cure must be.

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We shall begin with the vascular system, and shew the means proper to be used when the motions here are not carried on with that moderation and equability which the healthy state requires.

The diseases which are the consequences of this intenseness and irregularity, are fevers, inflammations, and active fluxes, wherein the pulse is strong and rapid; with the predominant symptoms of excessive heat, thirst, oppression, and restlessness: to alleviate these, we must have recourse to bleeding, to purging, to those medicines which are termed Sedatives, frequently to emetics, and to such a low course of diet as shall co-operate with the other remedies *.

BLEEDING.—Though we do not know precisely wherein the strength of the living fibres consists, yet we know that, unless the blood-vessels be completely full, so that an equilibrium be kept up between the contractile power of the solids and the expansive force of the fluids, the strength of the muscular fibres in general diminishes; and this in proportion to the quantity of blood drawn from the vessels, and to the suddenness of the evacuation.

When the muscular force in general is weakened, the heart, as a particular muscle, will want somewhat of its power to propel the blood; hence the circulation will become more languid, and consequently there will be an abatement of animal heat: thus we may easily comprehend how it happens that bleeding should cool the body.

But then we are to consider, that some degree of spasmodic constriction generally prevails in cases where intenseness of motion in the vascular system continues for any considerable length of time; this keeps the heart and arterial system in a state of unusual irritation; and hence the heat will continue to be distressing, notwithstanding the bleeding, unless at the same time that the blood is

* As the reader is supposed to be already acquainted with Dispensatories, and books on the Materia Medica, only such compositions and simples are here mentioned, as are in daily use, and whose virtues are sufficiently ascertained.

drawn off, the spasmodic constriction should also give way, and allow the circulation throughout the minute arteries to proceed with its natural freedom.

We are also to consider, that there are cases wherein the excess of heat is more owing to an increase of the blood's intestine motion, than to that of its progressive, and consequently in these cases we are not to expect that bleeding shall cool the body: this kind of heat, as was explained formerly, is that which is peculiar to the worst sort of putrid fevers, wherein the pulse is weaker than during health, and where bleeding is always found to do harm.

In these diseases, relief is sometimes obtained from the acid spirit of vitriol, mixing it with the drink in such quantity as to give a grateful degree of sharpness.

Hence we may understand why bleeding so seldom interrupts the progress of a fever; it is, nevertheless, extremely serviceable, and scarcely ever to be dispensed with at the commencement of those diseases which consist chiefly of intenseness in the motions of the vascular system, which we can always know from the pulse. For as often as we meet with a frequent, strong and full pulse, accompanied with great heat, pain and oppression, we may safely bleed, be the disease what it will. The experienced Huxham says, that in such circumstances he would always take away blood, though he were even certain the fever should turn out pestilential.

But there are cases wherein bleeding is absolutely necessary, even though the pulse be weak and small; as for instance, in the peripneumony, and in some other cases of internal inflammation, the particular signs of which will be laid down in their proper places.

With regard to the repetition of bleeding, we may observe the following rules:

When we find that after bleeding the pulse still continues frequent, but diminishes in its strength, and that the excessive heat and

oppression about the præcordia are little or nothing abated; we must then be very cautious how we repeat the bleeding, because we might thereby weaken the body too much, and diminish the chance of seeing the spasmodic constriction give way; for until this obstacle be thoroughly removed, the circulation can never become moderate, equable, and free.

The more the pulse sinks after bleeding, and the more the sickness and anxiety increase, so much the more cautious must we be not to take away more blood; but, on the other hand, in all cases where we find that the bleeding has rather raised the pulse, and relieves from the difficulty of breathing or weight about the præcordia, then we may safely repeat it, as far as we shall find the other circumstances of the disease require.

As to the quantity of blood to be taken away, and the particular vessels proper to be opened, as well as the manner of doing it, no general rules can be laid down, since all this must depend on particular circumstances, which may demand that we should open a particular vein, or perhaps use arteriotomy in preference to venesection, or have recourse to scarification, and the application of leeches.

In cases where some urgent distress, such as great oppression and difficulty of breathing, require the repetition of bleeding, while other circumstances, such as extreme sickness and weakness, rather forbid that we should take away blood, the safest way is to stand by while the operation is performed, and continue to feel the pulse during the time that the blood flows; if the pulse shall be found to grow more free, and to gain strength in the stroke, we may go on to take away as many ounces as we please; but if it should sink, then we are instantly to order the orifice to be closed.

Persons who are remarkably apt to faint on being bled, if they continue to sit erect, are found to escape this distressing circumstance by lying in a horizontal posture, while the blood flows, and for some little

little time afterwards. These people are of that temperament wherein there are high degrees of sensibility, with too little strength and elasticity of fibre; so that the emptied blood-vessels do not contract so quickly as they should do, and every change of equilibrium between the parts containing and the parts contained, is very quickly and sensibly felt.

It was formerly shewn, that while the strength of the heart and arterial system is unimpaired, the attraction of gravitation has no perceptible power over the motions of the animal fluids; but when that decays, then the fluids are subjected, like every other species of gross matter, to the laws of gravity; hence, in the constitutions here described, when the strength of the motory fibres in general is abated by bleeding, the heart so far loses its power, that it has not force sufficient to propel the blood through the superior ramifications of the aorta, unless it be favoured by taking away the resistance which is made by the mere weight of the blood; this resistance will be removed by lying in a horizontal position, and of course the circulation will be carried on with more ease.

In all cases where we want to make a remarkable derivation from some part, whose vessels are supposed to be greatly overloaded, as those of the brain in a phrenzy, or of the lungs in a peripneumony, we are to draw away the requisite quantity of blood in the smallest portion of time that can be contrived, because this will tend most to the relief of the patient, as we may easily comprehend, from calling to mind the nature and consequences of the vis derivationis, formerly explained: hence the necessity of making a large orifice, when we bleed in these or the like diseases, or even of opening two veins at one time.

PURGING.—Purging abates an intenseness of motion in the vascular system, on two accounts; first, as it draws off a considerable quantity

quantity of animal fluid, of course abating the force of the motory fibres in general, and those of the heart and arterial tunics in particular; and, secondly, as it clears the intestines of many acrid and stimulating matters, which by their stay would necessarily keep up an unusual degree of irritation.

Hence it is of great service in all cases where the motions of the vascular system are raised much above the healthy rate, to subjoin the use of cathartics to the letting of blood; or even frequently to give them previous to venesection: a number of particular circumstances which cannot now be explained must determine the choice, the dose, and the manner of giving these remedies; but we may with propriety lay down some short rules with respect to the use of cathartics in general.

The substances used for emptying downwards through the alimentary canal are distinguished into such as are lenient; opening the belly but gently; and such as are drastic, and purge briskly. Their action consists in irritating the sensible fibres of the intestines, whereby not only the peristaltic motion is accelerated, but also the secretion of mucus and lymphatic vapour, which ouze every where into the cavities of the intestines, is increased, as well as unusual quantities of pancreatic juice and bile derived from their several sources. Hence we may easily judge how great a quantity of humours may be carried off by one brisk purge, and in how sensible a degree the whole mass of fluids may be thereby decreased.

Purgés are given with different intentions; sometimes they are meant only to keep the bowels free, and merely to prevent an overloading of the intestinal canal, by an accumulation of fæces; when this alone is required, we only have recourse to the most gentle kind, such as manna, elect. e cassia, or elect. lenitivum, a few grains of rhubarb, or some drachms of the oleum ricini; or, if there be a remarkable acidity in the first passages, the magnesia alba, or in cases

where the bowels are loaded with a viscid slime, a few grains of aloes or of scammony, and soap made into a pill.

But in cases where there is a necessity for thoroughly clearing the intestinal canal, we must administer some of the brisker cathartics, of which there is a considerable choice, either as to the matter or the form wherein they may be exhibited. Of the saline purges, there are the sal catharticum glauberi, the sal polychrestum, and the sal rupellense, especially the last, as being free from that nauseating taste peculiar to the other two, which renders them scarcely bearable to many stomachs: of the vegetable purges, the safest, without doubt, are rhubarb and senna; and these may be given in the various forms of powder, bolus, infusion, or tincture.

In cases where cathartics are wanted to lessen considerably the general mass of fluids, or to divert them from flowing to any particular place, by carrying off at once a large quantity of humours, we must give some of the drastic purges, the safest of which, and the most certain in the operation, is the radix jalapii. This root, powdered and mixed with an equal quantity of nitre, is an exceedingly brisk purge, and seldom fails to discharge a large quantity of watery humour; hence it is directed to great advantage in all cases where such an evacuation is necessary. Scammony is also a very safe and brisk purge, and answers in the same cases where jalap is proper; but it is more apt to disappoint in the operation, as it frequently happens to be unsound or adulterated. Gamboge, triturated with cream of tartar, from 12 to 20 grains, is a powerful hydrogogue, and particularly useful in dropsies. The syrupus e spina cervina is also a brisk cathartic, but apt to gripe, and occasion much sickness; however, it has often been found to answer particularly well in drawing off large quantities of the watery humours.

Again, in cases where the intestines are loaded with a viscid slime, or where their fibres seem to have lost much of their sensibility, so that
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the peristaltic motion appears to be in great measure suspended, then the aloetic purges are most proper; or where somewhat extremely sharp and irritating is required, united with scammony or colocynth.

But in delicate constitutions, with great sensibility and weak blood-vessels, aloetic purges must be cautiously avoided; and wherever cathartics are proper in these habits, rhubarb is almost the only thing that can safely be ventured on.

CLYSTERS.—As there are many cases wherein it is either improper or inconvenient to give cathartics by the mouth, in these we have recourse to clysters. The most common use of clysters is, where the intention is merely to unload the intestines, and prevent the accumulation of fæces, which by their stay might create uneasiness; and where there is some hazard that the disturbance raised in the body by a cathartic might add to the disease, or bring on some new species of distress. This is often the case during the progress of febrile diseases; and therefore in these circumstances we generally prefer clysters to the giving of purges by the mouth, because it is impossible to determine the operation of the latter so precisely as we can that of the former; since it often happens that where only one stool is required, yet, if we give some purging medicine, though even in a small dose, there will follow a number of loose stools, perhaps greatly to the disturbance and detriment of the patient: clysters are also directed to answer other intentions, as well as to unload the intestines; but as these relate to particular diseases, we shall not enter on the subject at present.

SEDATIVES.—But neither bleeding nor purging are so effectual in abating intenseness of motion, and restoring regularity to the vascular system, as those things which have the power of removing spasmodic constriction; these, from the manifest calm which follows their successful administration, are in general termed Sedatives, Coolers, or Febrifuges.

Nitre

Nitre is usually placed at the head of this list, and without doubt is possessed of considerable powers; the neutral saline mixtures, either of the volatile or of the fixed alkali, saturated with acids, whether vegetable or mineral, are also given with advantage, and are occasionally found to produce very good effects.

In common practice, nitre is seldom given in large enough quantities to do any remarkable service: in fevers of the inflammatory species, and particularly in that variety of it which is accompanied with such general pain in the fleshy parts, as to give it the name of the rheumatic fever, nitre is said to be very efficacious, when taken to the quantity of six or eight, or even ten drachms, in the course of twenty-four hours; it requires however to be dissolved in a large quantity of thin gruel, not less than three-half pints to a drachm; the patients who found advantage from this course of treatment, it must be observed, were of the robust kind, and in military hospitals; in private practice we shall perhaps not often meet with such athletic subjects; nor when we do meet with them, shall we be able to prevail on them to swallow such quantities of a drink which is not the most palatable.

Still later observations than those above alluded to, shew that the stomach can bear considerable quantities of nitre; and they also shew, that if the solution be allowed to stand for any considerable time, the effect, with regard to cooling, is not near so evident, as when the draught is swallowed instantly after the solution of the nitre is completed.

Nitre has been supposed to have the power of thinning the blood, and this has seemingly been confirmed by the experiment of mixing it with blood fresh drawn. But all these experiments made out of the body are precarious, and we must always be cautious how far they influence our practice; for we are by no means to expect that such things will produce the same changes with respect to blood

which is in the vessels and in motion. This attenuating quality of the nitre accorded perfectly well with the theoretical notions of lentor, which was supposed to block up the extremities of the finer arteries; but these notions now seem hastening fast toward oblivion.

The dulcified spirits of nitre and of vitriol are possessed of the sedative power, and found to be both grateful and useful in abating intenseness of motion, and allaying the symptoms which depend on this as their immediate cause. But perhaps the most efficacious of all, and the most to be depended on for removing spasmodic constriction, and restoring equability and freedom to the circulation, are some of those things which, being given in large doses, provoke vomiting; but when taken only in small quantities, are found to promote a diaphoresis, and determine a flow toward the skin.

These are the ipecacoanha-root, and different preparations of antimony; the success of these things in producing the effects above-mentioned, is evidenced in a multitude of instances of fevers, inflammations, and fluxes.

The best adapted formulæ, the seasons for administering, as well as the proper doses of each, will all be considered hereafter; at present we shall only mention a few circumstances with relation to the use of emetics in general.

EMETICS.—Where nothing more is intended than merely to unload the stomach; this end may, for the most part, be answered, by taking a large draught of camomile tea, or even of simple warm water; but where it is evident that there is some species of saburra, or that there is an accumulation of bile, or other offensive matter, which cannot be pumped up without considerable force, then we generally have recourse to the ipecacoan, or to some of the antimonial preparations.

Ipecacoan

Ipecacoan is the emetic most commonly used, and the excellence of this root is, that a very small dose of it, such as four or five grains, seldom fails to puke a grown person as often as will be necessary, provided he encourages it by taking down some lukewarm drink, while there is no great danger in giving a pretty large dose, such as half a drachm. But the preparations of antimony have not this certainty in their operation, for sometimes they operate with great violence, and sometimes they will scarcely work at all; but nevertheless, as antimony has a powerful effect in removing spasmodic constriction, and promoting the cutaneous discharges; and as febrile diseases mostly begin, and are kept up by this constriction, the antimonial emetics are frequently found of great service in the commencement of feyerish attacks: the safest way of administering these is, to dissolve three or four grains of emetic tartar in as many ounces of any simple water, and order one spoonful to be taken every ten or fifteen minutes till it operates.

There are some circumstances which ought to be attended to before we venture to administer emetics. In the first place, they should never be given where there is very great fulness of the vessels, and where the florid complexion, and brightness or protuberancy of the eyes, together with pain, heaviness and giddiness of the head, shew that the vessels of the brain may be overloaded or ruptured in the straining to puke; in all such cases, bleeding, and that in pretty large quantities, should always be premised. Emetics also should be cautiously administered in cases where we know that there has been, or have sufficient reason to apprehend that there may be, a rupture of any considerable vessel in the lungs: neither are they to be given if the stomach be inflamed, which may be known by a burning and severe pain in the epigastric region, accompanied with excessive heat; a hard, quick, and weak pulse; violent thirst, and constant reaching to vomit.

Emetics must also be avoided in hysteric or hypochondriac cases, where the stomach is contracted by a spasm, producing great sickness and anxiety, with danger of suffocation; nor are they to be given in colics, or the like complaints of the lower belly, when these are attended with obstinate constipation.

Emetics are extremely hurtful and dangerous, if taken by persons who have been lately agitated by the passion of anger; and, lastly, they must never be given at any time during the appearance of the menstrual discharge, nor when the period of this natural evacuation is very near at hand.

These are the principal cautions with respect to the cases wherein emetics ought not to be exhibited.

The cases in general where they are of use (beside those already mentioned) are, when the stomach is overloaded, or oppressed by a surfeit of any kind of food, when any thing of a poisonous nature has been swallowed, or when there is reason to apprehend the infection of a putrid fever; for, as the miasmata seem particularly to mix themselves with the saliva and succus gastricus, if these can be pumped up immediately before the general mass of humours comes to be infected, the person will probably escape the disease.

In the beginning of all febrile diseases, the giving an emetic (with the precautions in regard to bleeding just now mentioned) is generally held to be proper.

Emetics are also of great service in habits where there seems to be an extraordinary viscosity of the bile, and where this humour is apt to be obstructed in its passage from the gall-bladder to the duodenum, producing different degrees of jaundice: in disorders of the liver also, where this viscus appears to be overloaded and choked up, these medicines, frequently repeated, are of great service, as they not only increase the biliary discharges, but also, by the agitation
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and pressure on this and all the other contents of the abdomen, tend greatly to remove obstructions.

Emetics also help to promote expectoration, and tend to free the lungs of viscid mucus, and thus give relief in the species of asthma proceeding from this cause; but much more certainly will they relieve a fit of the asthma, which is owing to somewhat oppressing and distending the stomach, and thereby irritating the diaphragm.

A still further use of emetics is, to restrain hæmorrhages and other discharges. We may observe some traces of this practice in Hippocrates; but the modern use of emetics for this purpose was introduced by the late Dr. Bryan Robinson of Dublin.

REGIMEN.—In order to facilitate the operation of all these various means of allaying intenseness of motion in the vascular system, we are to keep the patients on such a course of diet as shall be perfectly light, and not at all irritating.

In every species of fever, sickness, or at least a loss of appetite, is an essential symptom; it is therefore a superfluous caution to say, that in these cases we are not to allow the patients solid flesh-meat or broths, because they naturally nauseate, and refuse such food, and the things that people chiefly relish at these times are those which are most proper, namely, subacid and watery drinks, or at most thin gruels, or panada acidulated.

In Ireland, the patients, in all febrile diseases, generally use a kind of drink which seems almost peculiar to this country, and which is extremely grateful, and well-adapted to cool and quench thirst; it is whey, made of four butter-milk and new milk, boiled up together; hence called Two-milk Whey.

In the commencement of fevers, and while the pulse continues full and strong, this is the drink which is most in use, and it appears to answer remarkably well; but in places where this two-milk whey cannot

cannot be procured, almond-milk, barley-water, sage-tea, decoction of the roots of couch-grass; hot water poured on currant jelly, or on sliced apples, and lemonade, are in their turns to be given to the sick person; and if there be any appetite for somewhat more substantial, barley or oaten-gruel, panada, roasted apples, currant jelly, or such light nourishment is to be given, in such quantities, and at such intervals, as the patients shall desire, and the particular circumstances of the case may suggest.

In purely inflammatory cases, there is sometimes no great degree of sickness, and the patients have a desire for taking more solid food than is proper; but in such cases, it will be the business of those who have the care of the sick person to see that he does not touch solid flesh-meat, or even broth, so long as the intenseness of motion in the vascular system shall continue so great as to give sufficient reason to apprehend any danger.

All these things are to be considered as coolers or sedatives potentially; but there are other things which may be held as coolers in the actual sense, such as drinking cold water, or exposing the body to cold air; these, however, are to be used with caution; though if we are to judge from the freedom which is allowed by many practitioners, who inoculate for the small-pox, and who let their patients go out of doors and drink water freely from the pump, while in the height of the eruptive fever, the hazard is not so much as hath been generally imagined. There has assuredly been much more harm done by confining people in fevers too closely, than ever happened from exposing them to the open air.

C H A P. II.

General Methods of Cure with respect to Remissness or Suspension of Motion in the Vascular System.

SUCH is the general scheme of management when we mean to allay intenseness of motion in the vascular system; but when we find from the pulse, and every other circumstance, that the motions are remiss, or altogether suspended, then we are to pursue a different method, and endeavour to support and rouse the animal motions by cordials and stimulants.

CARDIACS.—Wine, as a raiser of the pulse, is perhaps more certain and durable in its effects than any thing the apothecary's shop affords; but then there is much caution required before we can venture to deal freely either in this or in the pharmaceutic cordials. It is impossible at present to distinguish all the nice circumstances which may either forbid or encourage their use; only this may be laid down in general, that so long as we find, from the heat and dryness of the skin, and from the excessive thirst and costiveness, that the spasmodic constriction has not at all given way, so long we should be cautious how we either allow wine, or even strong wine-whey, the volatile alkaline salts and spirits, confectio cardiaca, pulvis e contrayerva compositus, radix serpentariæ, or any other things of a like nature, to be given to the patient.

But when we find from the moisture of the tongue, the softness of the skin, and a cloud in the urine, while the pulse becomes more calm and full, that the spasmodic constriction is giving way, then we may assist Nature by giving wine, or the other cordials that have been already mentioned.

In cases where the motions of the vascular system are greatly sunk, or actually suspended, we must have recourse to the most acrid stimulants,

lants, such as the volatile alkaline salts and spirits, and to the application of blisters or sinapisms.

Not but that the application of blisters is of great service in many cases where the remissness is not so remarkable, or even sometimes where there is great intenseness in regard to the circulation.

BLISTERS.—The use of blisters may be considered as being threefold:

1. When they are applied as acrid stimulants, to rouse and excite new motions in the living solids.

2. As evacuants to promote a discharge of serum, in cases where we have reason to suspect that any particular part is overloaded. And,

3. In order to allay pains, take off spasm, or abate inflammation.

The diseases which require the acrid stimulus of a blister are those wherein the pulse is weak and depressed, and where the powers of sense in general are dull and languid, such as they are toward the close of many species of fever; and also in cases of palsy or coma.

Those which will probably be relieved by the discharge of a blister are, inflamed eyes, and such disorders of the head as proceed from a fulness of the vessels in that part; and fixed pains of the rheumatic kind, arising, as it is presumed, from a flow of acrid serum.

There are cases wherein blisters are applied with a view both to stimulate the living solids, and evacuate offensive matter; as in the small-pox, miliary fever or measles, when the eruptions strike in, producing coldness and oppression: here it is usual to apply blisters, in order, if possible, to raise the pulse; while, at the same time, a part of the offensive matter shall be discharged along with the serum which flows from the skin.

The cases wherein blisters are to be applied as antispasmodics, are mostly those which are termed Hysterical. Here, for instance, we shall sometimes meet with prodigious oppression, and difficulty of breathing

breathing approaching to suffocation, from mere spasm of the diaphragm, and other muscles concerned in the action of respiration: when we are assured that this is actually the cause of the distress, and that the difficulty of breathing does not proceed from an infarction of the lungs, we may depend on obtaining speedy relief from the application of blisters, and in these cases the legs are the proper places to apply them. Here they seem to produce their effects by raising slight degrees of spasm in fibres distant from those originally affected.

Pains, as we presume, are relieved by blistering, on the same principles; for, if pain be actually occasioned by a too violent agitation or vibration of the subtil fluid in a particular set of nerves, then, raising an agitation in a different set, may calm the intenseness of motion in those originally disturbed.

And hence it is, that blistering on the spot where the pain is felt, in a pleurisy, does so much service; for, as hath been formerly explained, inflammations are partly caused from an excess in the oscillatory motion in particular sets of blood-vessels.

Beside blistering-plasters, it is usual, on some occasions, to apply stimulating poultices of horse-raddish root, mustard-seed, and other acrid substances, in order to divert humours from particular places, or to rouse and irritate, in cases where the powers of life are greatly sunk or oppressed: such things applied to the feet have often been found to relieve the head or chest; and these cataplasms are termed Sinapisms, as mustard-seed is always one ingredient; but when they are required to be extremely sharp, it will be proper to add cantharides.

As it is the particular nature of cantharides, in whatever way they are applied, to affect the urinary passages, we are always to guard against this distress, by making the patients drink plentifully of com-

mon emulsion, or some other drink of a sheathing and mucilaginous nature: it has been said, that rubbing blistering-plasters over with camphire prevents the flies from giving pain and difficulty in making urine; but there is reason to doubt whether the camphire used in this way has the power which is ascribed to it.

Blisters promise to be of most use in cases where the soundness of the fluids is not much impaired, and where the distress proceeds from the disordered state of the living solids; therefore we are to consider them chiefly in the light of stimulants, antispasmodics, and anodynes, and not expect much from them as evacuants, except where the discharge is kept up for a considerable time.

STRENGTHENERS.—All that we are to expect either from blistering, or from the cordials formerly mentioned, is, only to give a transitory force to the languid motions of the vascular system; for, in cases which require that the effects should be more permanent, we must have recourse to such medicines as can really add strength and firmness to the living solids.

Nothing is found to answer these intentions with so much certainty and safety as that most valuable drug, the celebrated Bark of Peru; and in chronic cases, the different preparations of iron, or the natural chalybeate waters, are frequently given with success, and found to invigorate the vascular system.

C H A P. III.

General Methods of Cure respecting disordered Motions of the Nervous System.

THE symptoms which are presumed to have for their actual causes intenseness and irregularity of motion in the nervous system are, pain, itching, restlessness, spasm, excessive sensibility and delirium; and the remedies which are found to relieve from these different species of distress are termed, in general, Anodynes and Antispasmodics.

Since the motions which these remedies are intended to regulate, are altogether obscure, so must the *modus operandi* be equally involved in darkness; for, as we can only judge of diseases of the nervous system from evident defects in the organs of sense and instruments of voluntary motion, so we can only judge of the virtues of nervous medicines by the changes which we see produced in these organs.

Pain, and its necessary consequence, inability to sleep, are among the most frequent nervous symptoms, arising (as we presume) from intenseness of motion; and the remedies which procure relief in general are intitled Anodynes. Of these, opium is the chief. This admirable medicine, like the Peruvian Bark, is of infinite use, and proper in a multitude of cases, which cannot be specified at present. When given to persons not habituated to the use of it, opium should for the most part be administered in small doses, but repeated at short intervals, until the effects become apparent.

Beside opium, there is a chemical preparation greatly commended by Hoffman, and which during his lifetime was kept a secret, but now generally known, called *Liquor Anodynus Mineralis*; it is proposed to be given in cases where the use of opium might be

attended with hazard; for, when the vital powers are greatly sunk, and the pulse weak, small and quick, opium must not be given.

If this liquor anodynus does only half as much as its discoverer says it will, it must be a valuable medicine; but of late, æther, which is of nearly the same nature, and seems to possess similar virtues with the liquor anodynus, has been brought into use, and is either applied externally, to places where pain is felt, or given internally in some convenient vehicle.

As pain, itching, restlessness, erethism, and delirium, are presumed to arise from a disturbance in the nerves particularly destined for sensation, so spasms are supposed to proceed from a disturbance in those particularly bestowed on the muscular fibres; but whatever be the cause of spasms, there are some medicines known to have particular powers in allaying these disturbances. The chief of these again is opium, to which we must add asa foetida, castor, camphor, musk, and valerian root; it is frequent to join all or most of these together, in cases where powerful antispasmodics are required, such as that terrible disease the hydrophobia, or that no less dangerous one which often succeeds wounds of the tendinous parts, the locked jaw; or in the suffocation which is frequently seen in hysteric cases.

In chronic cases, such as the epilepsy, where a long continued course of medicine is required, there are several things which at times have been said to possess extraordinary antispasmodic virtues; such have been the moss growing on human skulls, the cranium itself; the ungula alcis, the oleum animale, mistletoe of the oak, root of the wild valerian, along with many others; of all these, the valerian is the one that has best preserved its reputation; and it certainly has considerable virtues, both as a nervous strengthener and as an antispasmodic. Of late it has been thought at Vienna, that the leaves of the orange tree, given in powder or decoction, have cured epilepsies.

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The symptoms which arise from remissness and suspension of motion in the nervous system are, coldness, weakness, loss of appetite, and different degrees of sleepiness or insensibility. These are often accompanied with remissness and suspension in the vascular system, and require nearly the same remedies.

As a general nervous strengthener, the cortex stands in the foremost rank, to which may be occasionally added, valerian, and the different preparations of iron, or the natural solution of that metal in chalybeate waters; and the courses of all these things ought to be assisted by the cold bath, by exercise, nourishing diet, wholesome air, and cheerful company.

Strengtheners, supposed particularly to comfort the head, are termed Cephalics, and, according to the catalogue, are pretty numerous; but the chief of them are peruvian balsam, and the flowers of rosemary, lavender, and such like fragrant herbs; the compound spirit of these flowers is remarkably grateful, and often serviceable in removing sickness at the stomach, and headaches proceeding from slight causes.

Strengtheners, supposed to act especially on the lungs and parenchymatous viscera, are termed Balsamics, and comprehend all the native balsams, such as those of Tolu, Gilead, Canada, and Capivi, Storax and Benjamin. Those which strengthen the stomach and help digestion, are called Stomachics; most of these are bitters; namely, the yellow part of orange peel, tops of the lesser centaury, and of roman wormwood, camomile flowers, roots of gentian and zedoary, and a root lately introduced, which is said to be an excellent stomachic, the radix columba, brought from Ceylon; as also another new drug, the lignum amarum quassi, from Surinam; which last is an exceedingly strong bitter, without the least degree of astringency.

Such things as particularly assist the stomach in freeing itself from flatulency, are called Carminatives, and chiefly consist of seeds,
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replete with a heating oil, such as those of anise, coriander, carraway, pepper and cardamons, together with the roots of angelica and ginger, and the water distilled from the leaves of peppermint.

All these things are supposed to be required when the powers of the nervous system are only weakened in part; but where there seems to be a suspension, and that either the organs of sense or the instruments of motion cease to be affected, or to act, then we must have recourse to stimulants of the most active kind, and such as, by their heating sharpness, shall rouse and enliven the whole system of living solids. These are the very things that have been already mentioned, as proper to stimulate and excite the motions of the vascular system.

CHAP. IV.

General Methods of Cure with regard to correcting offensive Matters in the first Passages, and restoring Soundness to the general Mass of Fluids.

ALTHOUGH every species of inability or of distressing sensation immediately depends on some disorder in the motions of either the vascular or nervous system, yet, in our endeavours to give relief, we are not always to direct our views solely to the regulating of these motions; as, for example, pain in the stomach, and sickness, are certainly owing to some disturbance in the nerves; and when this disturbance ceases, so soon will the pain and sickness cease to give distress.

Let us suppose a person to apply for advice, who is afflicted with the two aforementioned complaints, which on examination are found evidently to depend on the presence of an acid saburra; this, from the nature of its situation, can easily be expelled or corrected, and therefore, instead of advising opium to allay the pain, or some stomachic cordial to remove the sickness, we shall either direct an
emetic

emetic to bring up the acid, or some magnesia alba, to neutralize and correct it.

In like manner, we shall often find people in advanced stages of the venereal disease afflicted with excruciating pains, which keep them whole nights without sleep; but experience has taught us, that these pains are never to be removed until the specific virus which gives rise to them shall be subdued or corrected; and therefore we never think of giving anodynes, but fly to the use of mercury, which is known to have the power of restoring soundness to the fluids which are vitiated in this particular disease.

These examples may sufficiently shew that there are many cases wherein the methods of cure must be directed to the expulsion or correction of morbid matters, which are either lodged in the first passages, or disorder the general mass of gross fluids.

We shall first lay down the general methods of treatment respecting the different species of saburra, of which it was formerly shewn there are five.

The first indication with respect to all these different offensive matters is usually to empty the stomach by an emetic. If afterwards there should still appear to be a new generation of saburra, then we are to endeavour to correct it, by means appropriated to each.

The medicines that have power to obtund and neutralize the acid saburra, which is the most frequently met with of all the five, are called Absorbents or Antacids; and consist chiefly of earthy substances, which effervesce when an acid liquor is poured on them; such are chalk, crab's eyes, crab's claws, oyster and egg-shells, and the magnesia alba.

These substances, when taken into the stomach, mix with the acid humours, neutralize and prevent the irritation which might be occasioned by its sharpness, and thus procure ease from pain and sickness.

Formerly

Formerly there was a theory much in vogue, which ascribed almost every kind of disease to an acid that was supposed to contaminate the blood, and produce disturbance in the animal œconomy: hence it naturally followed, that the way to cure most diseases would be to correct this acid; and thus came the fashion (which still continues with many) of prescribing absorbents in almost every case; without doubt they are serviceable in many; and what is no small recommendation, they will seldom do any harm.

The bitter, the putrid, and the rancid saburra, require nearly the same correctives; which are generally known by the titles of Temperants and Diluents, and consist principally of juices of ripe subacid fruits.

What is usually called the antiemetic mixture, salt of wormwood, and juice of lemons, swallowed during the effervescence, appears to have a peculiar power of correcting a putrid saburra, and of restraining vomitings occasioned thereby. A mixture of hock and seltzer water, or, which is still more powerful, as being more saturated with the native alkali, the Vahls water, with hock, makes a most elegant and grateful draught, in cases where the bile is in such a state, as to require somewhat to correct its sharpness.

The viscid and insipid saburra requires the use of attenuants, and these are generally bitters, with some degree of aromatic warmth; bitters seem to prove attenuants by stimulating the sensible fibres of the stomach, and exciting a flow of lymphatic juice, which thins and dilutes the viscid mucus. But there are medicines which act more immediately in correcting the viscosity of this mucus, and these are, lime-water and neutral or fixed alkaline salts, such as the tartarus solubilis, sal diureticus, sal tartari, and sal sodæ.

These are the principal alteratives intended for the correction of vitiated matters in the first passages; as to those which act on the
general

general mass of fluids, they must differ according to the nature of the disease.

If the general mass of fluids seems poor and watery, as often happens in female subjects, the principal remedies must be sought for among the preparations of iron, adapted to the particular circumstances of the case; to which must be joined occasionally, the cortex, and stomachic bitters, moderate exercise, and the cold bath; rhubarb also, in small doses, from time to time, to keep the intestinal canal from being overloaded.

If the blood be tainted with an acrimony of the acid nature, which sometimes happens to infants, though very rarely seen in adults, a course of lime-water may possibly correct this predominant sourness; but if, on the contrary, the general acrimony should appear to be alkaline, like that in a case mentioned by Dr. Huxham, of a young man who destroyed himself by taking immoderate quantities of salt of hartshorn; then the most probable scheme of relief will be by a diet of milk, and acescent vegetables.

Where the acrimony is of a putrefactive nature, the cortex and acid spirit of vitriol, with a plentiful use of wine and of subacid fruits.

And lastly; in cases where the acrimony is of a muriatic or ammoniacal nature, producing leprous or impetiginous eruptions, accompanied with heat and itching, the most promising remedies will then be, sulphureous waters, and such compositions as the pil. Ethiopicæ of the Edinburgh Dispensatory, with the aqua calcis magis composita, or diet drinks prepared with the sweetening roots and woods, chinæ, ginseng, sarsaparilla, guaiacum, and saffrafras.

Such are the chief alteratives for correcting those kinds of acrimony, which produce no determinate species of disease; but as to remedies that have the power of altering morbid matters, which are of a specific nature, we are as yet acquainted with but few.

1. The morbid matter in remittent and intermittent fevers is subdued by the Peruvian Bark.

2. The syphilitic virus, if taken in due time, is corrected by different preparations of mercury. And,

3. The scorbutic, by the juices of recent vegetables, or in places where these cannot be had, by fresh wort or infusion of malt.

CHAP. V.

Methods of increasing particular Secretions and Discharges; and Remedies for restraining such as are excessive.

BESIDE correcting the vitiated qualities of the animal fluids, and discharging such gross and offensive matters as may either overload or irritate the stomach and intestines, we frequently have occasion to promote or increase the secretion and discharges, by the skin, by urine, by the salivary glands; from the pituitary membrane which lines the nose and cavities connected therewith; from the larynx and aspera arteria; and from the uterus; as well as in many cases to restrain the excessive flow of blood, or of different secreted humours.

Those things which promote the discharges above mentioned are distinguished by the different appellations of Sudorifics, Diuretics, Sialogogues, Errhines, Expectorants, and Emmenagogues.

SUDORIFICS.—The terms Sudorific and Diaphoretic are, for the most part, used indiscriminately; for all those things that are supposed to have the power of promoting and increasing the cutaneous discharges: but, strictly speaking, sudorifics mean such things as raise plentiful sweat, while diaphoretics do little more than increase the insensible perspiration.

Neither sudorifics nor diaphoretics are by any means so certain in their operation as emetics or cathartics; for, whereas we can almost certainly assure ourselves, that vomiting or purging will ensue after taking any of the different medicines which have been already mentioned, yet we never can be certain that a sweat will break out in consequence of giving any of the things termed Sudorifics. From this great uncertainty concerning their operation, it happens that things of opposite sensible qualities shall occasionally become sudorifics; for, in order to raise a sweat, the medicine must not only increase the circulating force of the fluids, but also have power to take off spasmodic constriction. Hence all stimulating things that have power to irritate the heart and increase the blood's progressive motion will prove sudorifics; if, at the same time, the cutaneous pores shall happen not to be preternaturally constricted, and, on the other hand, all very cooling and sedative things, whose power consists in causing an extraordinary relaxation of the cutaneous pores, may occasionally raise a sweat. Thus, drinking fermented liquors or ardent spirits, taking some of the volatile alkaline salts, or other acrid stimulants, will, at certain times, prove sudorific; and thus, drinking of cold water, or taking a large dose of nitre, will, at other times, excite the cutaneous discharge.

From this we may easily infer how little dependance is to be had on the sudorific virtues, which are ascribed to a multitude of things by writers on the *Materia Medica*.

Since, in order to raise a sweat, either the force of the circulating fluids must be so far increased as to overcome the resistance in the extremities of the cutaneous arteries, or their orifices, which open on the surface of the body, must be so far relaxed, that their resistance shall not be equal to the force exerted by the heart; the most certain way of promoting this discharge is, to apply such things to the surface of the body as shall relax and set open the cutaneous pores.

Nothing can do this more effectually than warm vapour; and therefore a stove or vapour-bath is the most certain way of raising a plentiful sweat, which may be increased to a very high degree; if at the same time that the vapour is applied to relax the pores at the circumference of the vascular system, some stimulating drink be plentifully administered to increase the power of the heart, and cause a greater force to be exerted from the center.

Such sweating as this just now described is often found of great use in rheumatisms, and other fixed pains; in some species of dropy; in cutaneous foulnesses; and in some stages of the venereal disease.

The most powerful, as well as most certain internal sudorifics, are combinations of antimonials or of ipecacoanha, with opium; the latter is termed Dover's Powder, and is sometimes used with success in cases of inveterate rheumatism.

The use of diaphoretics in febrile diseases must depend on such a number of nice circumstances that no general directions can be given; only this caution seems necessary, that so long as the spasmodic constriction is found to continue, we are never to give any of those things mentioned in the books under the titles of Diaphoretics, Febrifuges, or Alexipharmics; for all these, unless the constriction has already given way, will only add to the distress, by augmenting the heat, and increasing the disturbance in the vascular system. But when signs of this relaxation appear, then we may assist the power of the heart, by giving wine, or some of the pharmaceutical diaphoretics.

DIURETICS.—Diuretics and sudorifics are nearly allied; for the same things that have a power of raising plentiful sweat, when encouraged by the warmth of thick bed-clothes, or the application of hot vapour, and drinking freely of warm liquors, prove powerful diuretics, when the surface of the body is kept cool, and nothing heating is taken at the same time.

Diuretics

Diuretics are almost as uncertain in their operation as sudorifics, and it is owing to this uncertainty with respect to both, that we are so often foiled in our attempts to cure dropsies; for, if we could with as much certainty raise plentiful sweats, and increase the discharge of urine, as we can vomit or purge, we should seldom fail in curing a dropsy, since by these means we could carry off the superfluous and stagnating lymph which constitutes the disease.

It is true, there are some things that particularly affect the urinary organs, and promote the discharge peculiar to them; but these are of such a dangerous nature, that they are not to be rashly used. If cantharides and the root of colchicum autumnale were not so exceedingly acrid and violent in their operation, they might sometimes be of use.

The most commonly used of the mild diuretics are the roots of the squill or sea-onion, in small doses; of fennel, parsley, asparagus, and horse-raddish; the seeds of wild carrot and mustard; the berries of juniper; the green tops of the genista or broom in decoction; turpentine and other balsams of similar qualities; soap; salt of tartar; diuretic salt, and dulcified spirit of nitre.

The cases in general which indicate the use of diuretics are those wherein there appears to be a load of slimy or earthy matter in the urine; as also in dropsies, or other diseases where the quantity of this discharge is evidently below the healthy proportion.

But as the difficulties attending this particular secretion and discharge may, and frequently do, arise from different sources, so must the methods be varied which are intended to remedy them.

With respect to the operation of both diuretics and sudorifics, the reader is recommended to Alexander's Experimental Essays, wherein he will find many curious, as well as useful, experiments and observations.

SIALOGOGUES.—There are particular cases wherein it has been thought necessary to increase the discharge of saliva, in order to
free

free the constitution from acrid and offensive matters, particularly the virus, which causes the venereal disease, or that which sometimes produces corroding ulcers, and a variety of eruptions and cutaneous foulness, generally, though falsely, termed Scorbutic.

There is but one remedy which can with propriety be termed a sialogogue, as having the peculiar property of increasing the secretion and discharge of saliva, and this is mercury; the particular manner of management when a salivation is to be raised, shall be explained on a future occasion; but we may observe in the mean time, that, in modern practice, salivations are not raised, intentionally, near so often as they used to be formerly.

As to those things called Masticatories, sometimes used to draw off mucus from the fauces and inside of the mouth, they are not to be considered as sialogogues; these masticatories are acrid substances, which when chewed promote the flow of humour; the thing chiefly used in this way is the radix pyrethri, which is sometimes found to ease the toothach, and help to take down swellings of the gums. The smoking of tobacco, or of other acrid herbs, will answer much the same purposes; and when used medicinally, not from habit, may be of service in drawing off lymph or mucus from the glandular tunics about the fauces, and inside of the nose; and by this means divert humours from the eyes, or perhaps ease pains of the head.

EXPECTORANTS.—Those things which help to throw off that superabundant mucus, which frequently disturbs the action of the lungs, by tickling the larynx, and stuffing up the pulmonary vesicles, are called expectorants.

Emetics, in small doses, will sometimes act as expectorants, whence the use of adding oxymel scilliticum, antimonial wine, or emetic tartar to the infusions or decoctions of the pectoral herbs and roots, such as hyssop, horehound, maidenhair, coltsfoot, and groundivy, liquorice and elicampne; it is usual also to prescribe linctuses, or
oily

oily mixtures, of spermaceti, oil of sweet almonds, and different syrups or conserves, and to acidulate these with spirit of vitriol, or sharpen them with spirit of hartshorn; honey is a powerful expectorant, and gum ammoniacum has considerable virtues in this respect, either given in solution, or combined with soap and a due proportion of radix scillæ siccata, in the form of pills.

ERRHINES.—As to those things termed Errhines or Sternutatories, which increase the flow of mucus to the membranes lining the inside of the nose, and the various sinuses communicating therewith, though we find them regularly mentioned in the systematic writers, yet they are very seldom brought into common practice.

The cases where they may most probably be of use are in comatous diseases, and where there seems to be a remissness in the nerves belonging to the organs of sight or hearing; here a repetition of the action of sneezing, from the great and universal shake which it gives to the whole frame, may sometimes happen to be of service. The substances which will produce this effect are the powder of white hellebore root, or euphorbium in a very small quantity, mixed either with common snuff, or with the powders of what are generally termed Cephalic Herbs; namely, betony, lavender, balm and rosemary.

EMMENAGOGUES.—Emmenagogues are the last mentioned of the remedies used to promote or increase natural discharges; and here again we find, that drugs of opposite natures may be used at different times, according to different circumstances, in order to answer the same end; for the menses may cease to appear at the natural periods, or may be defective in regard to quantity, from various and even opposite causes.

Sometimes the menses are deficient from mere want of strength in the vessels, and poorness of the blood; here the remedies to restore health must be of the strengthening kind.

At

At other times an overfulness and too great rigidity of the vascular system in general will prevent this natural and periodical discharge.

The particular medicines, and manner of administration, will all be pointed out hereafter: but no cases are more difficult to manage, and so seldom admit of a thorough cure, as those wherein the menstrual flux has been suddenly stopt, by imprudently taking things of an astringent quality, putting on damp linen, or otherwise catching cold; or in consequence of some fright or other agitation of mind.

ASTRINGENTS.—When either sanguineous or humoral discharges come to be so excessive as to bring on weakness and wasting, they will require to be restrained.

For the active fluxes which depend chiefly on spasmodic constriction, and intenseness of motion in the vascular system, the methods of cure are to be conducted on the same principles as have been already laid down in respect of fevers and inflammations; and bleeding, with sedatives, must be the principal remedies: at other times, when the flux is passive, and mere relaxation of the vessels or solution of continuity the chief cause, then we must have recourse to astringents; the most powerful of which are certain preparations of iron, alum, galls, oak-bark, logwood, pomegranate peel, red rose buds, tormentil root, and terra japonica; but these are to be directed under such a variety of restrictions, which have reference to particular circumstances, that nothing can be laid down concerning their general use, further than that we should always be on our guard (either in cases of hemoptysis or of alvine fluxes) how we interpose with astringents, so long as any coagulated blood or any very acrid matter continues pent up in the lungs, or lodged in the intestinal canal.

RESTORATIVES.—When the constitution has been much exhausted, and emptied by profuse discharges or evacuations, we must endeavour to fill up the vessels by light nourishment, such as the
stomach

stomach can easily bear, and readily digest; for, as to pharmaceutical restoratives, we have little to expect from them.

But as in those cases, the action of the digestive organs is usually so much weakened, that food cannot be taken in sufficient quantity; or if taken, not properly turned into nourishment, our first views must be to strengthen the stomach, and hinder the first passages from being overloaded; hence small doses of rhubarb, joined with stomachic bitters, must begin the cure, and when by these means the digestive organs appear to have recovered their tone, the patient may take freely of light jellies, chicken broth, or that sort of thin beef-broth, usually called Beef Tea. When these have been some days in use, and appear to sit well, we may then allow more solid food, and perhaps call in the further aid of pharmacy, in order to brace up and strengthen, to which end nothing will contribute more than aromatic bitters, in some convenient form, with the acid elixir of vitriol.

From this short sketch of the Therapeia, we may perceive that the general methods of cure are not very complex, and that a moderate number of articles from the Materia Medica may answer all the most important purposes, at least with respect to the first class of diseases.

As to those of the second class, a greater variety of management is required, which renders it impossible to lay down any general scheme for the treatment of local diseases, because many of them, beside internal remedies, the administration of which is founded on the foregoing plan, demand the assistance of surgery and different topical applications; such as emollients to relax and soften; roborants to brace up and strengthen; discutients and repellents to disperse swellings; maturants or suppuratives to ripen them, or favour the formation of matter; digestives to promote the discharge from wounds, burns, and ulcers; detergents to cleanse away foul sloughs; epulotics to cicatrize; refrigerants to cool; calefacients to stimulate and increase heat; antispasmodics and cosmetics to remove cutaneous eruptions and foulnesses.

These are applied in the various ways and forms of cataplasm, epithem, plaster, cerate, ointment, liniment, vapour, fustus, lotion, injection, and embrocation.

Then, as to sexual diseases; such as are general, but proper to males, demand nothing peculiar (indeed there are not more than two diseases that can well be considered in this light): but those which are general and proper to females always require that particular attention be given to the patient's age, and situation with respect to the menses, and whether she be pregnant, lying-in, or nursing.

Most part of the local diseases proper to males are the consequences of venereal infection, and therefore, besides the necessary surgical treatment, and common topical remedies, will require the aid of mercurials. The treatment of local diseases in females must be regulated according to the nature of the part affected.

The diseases of children acquire their peculiarity from the weak state of the bowels, the extreme mobility of the nervous system, and the flabby relaxed state of the general solid texture. And therefore, the treatment during this tender period must be so conducted as to have a particular attention to these three circumstances. Hence the necessity for frequent cathartics and emetics to evacuate the viscid or acid saburra; and of antacids or absorbents to correct it; and for the cold bath to abate the sensibility of the living solids, and give firmness to the texture in general.

END OF THE FIRST PART.

PART II. —
A
METHODICAL INTRODUCTION
TO THE
PRACTICE of PHYSIC.

Q q 2

P. A. R. T. II.

INTRODUCTION

TO THE

FRAGMENTS OF P. H. S. C.

1872

GENERAL PLAN OF THE PRACTICAL PART.

THERE are people who, either from dulness or indolence, pretend to decry the systematic way of arranging the histories of diseases; but if such as have capacity to understand it, will take the pains of examining, they will see that the systematic method is more satisfactory than any that has yet been adopted, and tends to reduce practice to the greatest simplicity, since, by bringing those diseases together which demand similar remedies, it shews, that though there may be great variety in the names, there is not much in the methods of treatment.

This is the scheme of arrangement which Sydenham so warmly recommends; “for,” says that celebrated physician, “all diseases ought to be reduced to certain and determinate species, with the same exactness that we see it done by botanic writers in their histories of plants;” — but Sauvages has the honour of having first carried it into execution.

If the immediate causes of the fifteen general symptoms were not so few, the number of diseases which might result from their possible combination with each other, and with all the variety of local complaints, would amount to somewhat beyond the reach of common apprehension; but since intenseness or remissness, irregularity or suspension, of the motions in either nervous or vascular system, give rise to every one of the symptoms which are found, more or less, in all diseases whatever, some of the fifteen, as depending on similar circumstances, must unavoidably concur, and always run together in the same assemblage; and hence it is, that all the diseases which afflict the human body, can be reduced to a moderate number of genera.

As to distinctions into species and varieties, they may be extended to many hundreds; but, as will hereafter appear, so many subdivisions are not absolutely necessary for practice, though they are indispensably so, whenever it is attempted to write histories of diseases.

“ In

“ In writing a history of diseases, the manifest and natural appearances must be noted with the utmost accuracy: for, is there a shorter, or indeed is there any other way of coming at the morbid causes which we are to encounter, or of discovering the curative indications, than by a certain and distinct perception of the peculiar symptoms? even the smallest circumstance is of use to both these purposes.” Such are the words of Sydenham, who adds, that “ the principal reason of our being yet destitute of an accurate history of diseases, proceeds from a general supposition that they are no more than the confused and irregular operations of disordered and debilitated nature, and consequently that it is a fruitless labour to endeavour to give a just detail of them.”

The notion here complained of is undoubtedly false; for though it be allowed, that cases do sometimes occur, with such a complication of anomalous symptoms, that it shall be hard to distinguish the species, or perhaps even the genus, yet this is far from being true with respect to diseases in general; and it is hoped that the following pages will shew not only the possibility, but likewise the utility of the systematic scheme of arrangement.

It has been already settled, that there is four general divisions or classes; universal, local, sexual, and infantile diseases.

We shall begin with Universal Diseases, distinguish the several genera into species, and, where it appears to be of use, the species into varieties; give the descriptions, and shew the methods of treatment, with as much brevity as shall be consistent with perspicuity; and, when we have gone through all the nine orders, to each of which we have allotted one book, we shall next proceed to local diseases, then to the sexual; and, lastly, to complete the system, to the diseases peculiar to infants within the period of dentition.

A M E-

A
METHODICAL INTRODUCTION
TO THE
PRACTICE of PHYSIC.

B O O K I.

F E V E R S.

C H A P. I.

Of continued Fevers; their Distinctions into different Species.

FROM the description and theory formerly laid down, it is presumed that the reader sufficiently comprehends the general nature of fevers: he will also remember that this order of diseases consists of five genera; the *continued fever*, the *intermittent*, the *remittent*, the *eruptive*, and the *hectic*.

The *continued fever* is distinguishable into five species: 1. The *simple*. 2. The *inflammatory*. 3. The *nervous*. 4. The *putrid*. And, 5. The *mixed*.

1. A *simple continued fever*, is one wherein there are no distinguishing signs of inflammation, no very distressing nervous symptom, nor any evident corruption of the fluids; and where the heat cannot be said to be either of the truly inflammatory, or of the putrefactive kind; the oppression also, nausea and weakness, are not extreme; and the head, though usually much pained, remains tolerably clear; the pulse, though frequent, is uniform, and without any remarkable hardness.

These

These simple fevers take their rise from errors in diet; from cold; from too violent exercise; from the suppression of some natural discharge; from the retention of acrid and offensive matters in the alimentary canal; or from some external hurt or injury; and these happening in constitutions where both solids and fluids are in the most sound and healthy state.

2. But when a continued fever takes place in very robust constitutions, where there is great strength and firmness of the vessels, which are replete with dense blood, abounding in the colouring part, these particles, when put into violent motion by the force of the stimulus applied to the heart and arterial system, raise the highest degrees of heat and dryness; and the gross particles being forced into canals which naturally ought to suffer only the finer and more subtile fluids to pass, will distend the vessels, and, distracting the sensible fibres, produce flushing and redness of the face and eyes, accompanied with violent pain in the head, and other parts of the body. This species of fever, from the full, strong, hard, and rapid pulse, and the remarkable excess of heat which distinguish it, is termed the *Inflammatory Fever*.

3. In the opposite constitution, where the fluids are poor and thin, and the nervous system remarkably susceptible of impressions; when a fever seizes, the degrees of heat are seldom high, the pulse neither full nor strong, though quick and irregular; and the thirst, which depends much on the degree of feverish heat, seldom so violent as to give much distress; but as the solids in general are in a state of morbid relaxation, the pores of the skin, for the most part, allow the subcutaneous fluids to ouze forth in clammy sweats, while the weakness is still more remarkable than in the inflammatory fever, and there is a much greater tendency to spasm, and to the other symptoms which depend on disorder of the nervous system.

From

From these circumstances it necessarily happens, that this species of fever is not so rapid in its progress, nor of such short duration, as the inflammatory fever, because the increased force of the fluids is not sufficient to destroy the texture of the solids in that short space of time, which is observable in the disease last mentioned; hence this species is termed the *Slow* or *Nervous Fever*.

4. In the three aforementioned species, the crasis of the blood is not supposed to suffer much injury, at least previous to, or at the commencement of the disease; as the fever advances indeed, particularly those which set out with high degrees of inflammatory heat, we frequently meet with appearances and symptoms that denote high degrees of corruption and sharpness, and shew the texture of the blood to be much dissolved; hence it often transudes from the pores in the coats of the subcutaneous arteries, or perhaps corrodes them, and escapes into the cellular parts of the skin, raising up the cuticle, or forming spots of various hues: but there is a fourth species of continued fever, wherein the fluids, from the very first onset, appear to be in the corrupt or depraved state; and this is termed the *Putrid*, from the evident tendency to putrefaction; and may be subdivided into several varieties, some of which arise from a specific acrimony, and are highly infectious; others are epidemical in particular seasons; and some are endemic, or peculiar to certain climates.

5. But very often we meet with violent continued fevers, which are so indistinctly marked, that it is not easy to say whether they ought to be called inflammatory, nervous or putrid, the symptoms peculiar to each of the three species, being so equally blended, or running into one another by such an imperceptible gradation, that the bounds which distinguish them cannot be precisely determined: thus, for instance, extreme nausea, and total loss of strength, which are distinguishing signs of the putrid fever, are often found along

with great heat, and a quick, strong, and hard pulse, which are distinguishing signs of the inflammatory fever.

These must therefore be termed *Mixed Fevers*.

Thus we have, in all, five species of the continued fever.

C H A P. II.

Methods of Treatment in Cases of simple continued Fever.

IT is unnecessary to enter into a particular detail of the manner in which *simple continued fevers* begin their attack, since this may be collected from what has been already said concerning the rise and progress of fevers in general; all that now remains is, to shew how we are to conduct ourselves when it appears that there are no signs of extraordinary inflammation, no very distressing nervous complaint, nor any remarkable tendency to putrefaction.

In cases where the symptoms are in the milder degrees, the affair may often be trusted entirely to Nature, only taking care that the patient abstains from such things as might load the stomach, and thereby add to the sickness and irritation of the vascular system; take freely of some diluent drink, and keep in bed to encourage perspiration.

But if the complaints are found to be more distressing, and that there is a good deal of oppression and heat, and the pulse is full, and rather hard, then some ounces of blood must be taken away; and if the belly has been bound up, a solution of manna and Glauber's or Rochelle salt, in very weak white-wine whey, is to be taken gradually, till it operates three or four times: after this, at bed-time, a paregoric draught, with from ten to fifteen drops of tinctura thebaica, and thirty or forty drops of sp. nitri dulcis will be proper, and will tend not only to compose, but also be a means of taking off the spasmodic constriction.

On

On the succeeding day, if it should be found that the heat and oppression continue, the skin remains dry, the tongue foul, and the patient has had but a restless night, we must try, if possible, to stop the progress of the fever, by giving antimonials in small doses.

Emetic tartar appears to be the most certain of all the preparations of antimony, and, besides, is one which is easily procured, and therefore is that which is most commonly prescribed; it is to be dissolved in a few ounces of some simple water, and thus made into a julep; or it may be rubbed up with some of the testacea, and a little sugar, in order to divide it into small doses of a sixth, a quarter, a third, or half a grain, according as it may be required for different ages or degrees of strength and sensibility.

If the stomach happens to be loaded with any thing that ought to be thrown off, especially an acid saburra, an extremely small dose of the emetic tartar will excite vomiting; and in this case the vomiting is to be encouraged, by drinking largely of camomile or carduus tea, or surfeit water and common warm water mixed, until it shall appear that every thing offensive has been brought up; then allow the stomach to settle for three or four hours, and begin again with the antimonial, and repeat it every third or fourth hour; in the mean while taking care that the patient be supplied with the proper kinds of drink; namely, barley-water, or two-milk whey.

In most cases of simple fever, if applied in time, we shall find this method remove the complaints; but if it should not succeed, and we perceive the sickness and oppression still to continue, the heat, thirst, and dryness of the skin increase, the headach grow more distressing, and the sick person can get no sleep; then we must, unless the patient grows remarkably weak, and the pulse sinks, take away more blood; and if the head seems much loaded, it will answer best to take it from the feet; the antimonial is to be continued, but not in such doses as to operate with violence, either upwards or downwards; and if the

belly is not opened by the use of this remedy, a glyster ought always to be thrown up toward evening.

If the distrefs does not subside before the end of the fourth or fifth day, in consequence of this scheme of management, but on the contrary the symptoms increase in violence, we may look on the fever as established, and may prognosticate that it will continue for some days longer; the number of which will vary according to different circumstances: it is but seldom, however, that these can be so well understood, even by the most experienced practitioners, as to enable them to foretell with certainty either the event or duration of the disease: the prognostic therefore must always be doubtful; for though matters should be in such a situation that one cannot say there are any signs which denote immediate danger, yet, while a fever is in being, we must constantly guard against pronouncing the patient safe, because it often happens, that the state of the disease shall change suddenly, and accessory symptoms, the most alarming and fatal, arise when they are least of all expected.

Simple continued fevers seldom run beyond the 14th day, and during this time we must endeavour to keep things in a moderate way, supporting the patient by sheathing or subacid drinks, with such thin diet as the stomach can bear and relish; and as to medicine, a saline julep *, with a small proportion of emetic tartar, will generally be found to keep the bowels free, and dispose the cutaneous pores for giving way to the sweats, when the time comes for their

* Such as the following:

℞. Succ. limon. recent. unciam, paulatim adjice sal. absinth. q. s. ad perfectam saturationem, dein affunde aq. menthæ vulg. simpl. uncias septem, et adde,
Sacchari puriss. drachmas duas,
Tartari emetici granum.

Sumat cochlearia duo, tertia quaque hora.

In Ireland, our usual mode of prescribing is, to order juleps and mixtures of six or eight ounces, with directions to take a certain number of spoonfuls; and not separate draughts, with bolusses and powders for every dose, as is the custom in England.

being

being thrown off. If the head becomes much affected, and the pain there is very distressing, blistering between the shoulders, or at the nape of the neck, and bathing or fomenting the feet will bid fair to procure ease, and dispose the patient to rest.

Should it appear that the stomach and intestines have been loaded with acid saburra, it will be of advantage to mix a drachm or two of magnesia alba, or of some of the testacea, with the saline julep, otherwise no great good can be derived from the use of these earthy substances. Toward the close of the fever, if the pulse begins to flag, and there appears to be a necessity for somewhat to rouse Nature, it will be proper to give wine-whey, wine and water, or sometimes pure wine, instead of the drinks used in the beginning of the fever; and in this situation we may add some of the volatile alkaline spirits to the julep, or mix with it the confectio cardiaca in a proper quantity †.

We may expect a favourable termination when we see the urine let fall a copious sediment, while the pores of the skin give way to a plentiful and general sweat, and the pulse becomes full, soft, equable, and less frequent, and at the same time the patient's senses return after having slept.

Though all the symptoms may abate greatly, yet we are not to look on things as perfectly secure until the pulse comes down from the frequency it had during the fever, to below even the healthy standard; for it is seldom that the critical discharges are found sufficient to carry off the fever all at once, but the force of the disease is first broken by an imperfect solution, commonly on the 11th day, and from that to the 14th it subsides gradually; the pulse falling four or five strokes in the day, till it gets even below the natural rate.

† From sixty to a hundred drops of the spiritus volatilis aromaticus; and from one to two drachms of the confection, will be proper proportions, in an eight-ounce mixture.

After

After the disease is fairly over, it is usual, and indeed necessary, to give a dose or two of some gentle cathartic, before the patient returns to his common course of life.

When a continued fever runs beyond fourteen days, it can seldom be comprised under the distinction of a simple fever, as the symptoms in such cases will generally be more alarming and severe than those which allow us to give it this denomination.

C H A P. III.

Description and Method of Treatment of the continued inflammatory Fever.

THE *inflammatory fever* invades suddenly, with extreme coldness and shivering; and the circumstances which may serve to assure us of its true nature are, an hardness, strength, and fulness of the pulse, more than what is to be met with in any other species of fever, an excessive degree of heat, and of that particular kind, which, though it affects the touch very sensibly at first, yet seems to grow less violent the longer we hold our hand on the skin of the sick person; excessive thirst, with great dryness of the tongue and inside of the mouth; total loss of appetite, together with that of the senses of tasting and smelling; severe pain in the head, and for the most part in the small of the back; at the same time, flushing and fulness of the whole countenance, with redness of the eyes, and impatience of bearing the light; breathing quick and laborious, often attended with a dry cough; frequent starting when the patients try to get sleep, which they seldom do, or if they be quiet and seem to sleep, it brings no refreshment; this restlessness and tossing soon give rise to a delirium, which, as the fever advances, becomes generally so violent, that it is with great difficulty the patient can be

kept in bed; the skin, in general, is dry, the urine high-coloured, sharp, and in small quantities, with little or no discharge by stool.

These symptoms and appearances shew, that in the true inflammatory fever there is a high degree of irritation in the vascular system, great force exerted by the heart from the center, and great opposition made by the spasmodic constriction from the circumference.

Hence the obvious indications of cure must be to remove this irritation, bring down the force of the heart, and take off the spasmodic constriction, so that the vessels at the circumference being opened, the circulation may again become equable and free.

It will be in vain to direct our first attempts toward the correction or removal of those morbid matters, which are presumed to keep up the irritation, and which, being intimately blended with the fluids, are not to be separated or thrown off but by some process of Nature, which Art has not yet been able to imitate; but as to lessening the force of the heart, and taking off the spasmodic constriction, we are sometimes able to accomplish these ends, and thus stop the progress of the fever before it has time to do any material injury to the crasis of the blood or texture of the solids.

Therefore, if called in at the beginning, we must in the first place endeavour to prevent the ensuing distress by large and repeated bleedings.

We must estimate the quantity of blood to be taken away from the degrees of strength and violence of the symptoms; but sometimes it happens that the vessels are oppressed by the superabundant load of fluid, and there is such a plenitude, that it overcomes their power; whence arises a false appearance of weakness, and unless the equilibrium be soon restored by bleeding, there will be great danger of a mortal stagnation.

Bleeding at the beginning of an inflammatory fever can never be dispensed with, for, if then neglected, it is not to be compensated by

by any thing that can be done in the subsequent stages of the disease. It is pointed out by Nature as an evacuation the best adapted to check the impetuous motion of the blood, and relieve the tension of the fibres; for we often see this species of fever terminate by a spontaneous hæmorrhage, more especially in cases where bleeding has been neglected, or not sufficiently insisted on in the beginning, which is the proper time; for, when the fever is advanced beyond the fourth or fifth day, bleeding in general is deemed improper, since it might then interrupt the concoction and separation of the morbid matter, which, when the crisis takes place, is best carried off by sweat, urine, or stool, and not by a discharge of blood: there are cases, however, which will require a repetition of bleeding in the more advanced stages of the disease, and those are in full and strong habits, where the lungs are threatened with inflammation, which we may infer from the oppression and great difficulty of breathing; or in cases where the brain is in danger of being surcharged with a load of blood, which will appear from the severe pain of the head, with high delirium, succeeded by a coma. In these circumstances, bleeding at any time of the disease will be proper, and may possibly relieve the patient.

With respect to a repetition of the bleedings, the season of the year, the habit of body, the manner of living, the difference of sex, the age of the patient, the bulk and weight of the body, are all to be considered. Thus we find, that in spring, and in winter, and in northern climates, people bear bleeding better than they do in summer and autumn, or the hot countries. Firm muscular subjects, and persons inured to labour, bear and require bleeding better than those of opposite habits. Children and aged people do not bear bleeding well, nor do women in general.

The ancients, in these cases, used to bleed *ad deliquium*, but modern practitioners do not push this remedy quite so far; the first bleeding ought nevertheless to be as large as the circumstances just
now

now mentioned will reasonably allow, and if the pulse is found, in six or eight hours, to be little or not at all softened, and the febrile symptoms do not abate, it must be repeated a second time, though not to the same quantity; or even a third time, if the symptoms continue to be urgent.

A proper evacuation being made by bleeding, we are, in the next place, to try what can be done by antimonials in small doses, given as before directed. If it be known from inquiry, or from particular symptoms, that the first passages are loaded, whether by acrid and indigestible remains of food, or by an accumulation of bile, it will be proper to push the operation of these so far as to excite discharges both upwards and downwards; but if no such fulness or load of saburra be present, we may content ourselves with bringing on the slightest degrees of vomiting and nausea, and rather encourage perspiration, by drinking freely of watery liquids moderately warmed; and at proper intervals, foment the legs and thighs with flannels wrung out of warm water.

If the means above proposed have the wished-for effect, in abating the violence of the symptoms, we are to hope for a favourable issue; the small doses of emetic tartar are nevertheless to be persisted in; and if they should not keep the belly sufficiently loose, they are to be aided by cream of tartar whey, decoction of tamarinds, or small doses of sal. polychrestum.

When it is found impracticable to interrupt the progress of the fever, or when we are called in too late to make the attempt, we must endeavour to moderate or assist the efforts of nature, according as they may appear too powerful or too weak, and wait in expectation of a favourable crisis, which, in the higher degrees of inflammatory fever, generally happens on the 7th or 9th day: sometimes the symptoms are so extremely violent, that the patient either shall be carried off, or the fever will terminate by a plentiful sweat on the 4th or 5th day.

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While

While we are waiting for this crisis, we must direct such drinks and medicines as shall be cooling, diluent, and aperient, and tend to correct any thing acrid, which might keep up the irritation in the vascular system; and in ordering these, we should always contrive to make both the drink and the medicines as agreeable to the taste of the patient as the nature of the case will allow.

The liquors most approved of are barley-water, two-milk whey, weak wine whey mixed with Seltzer water, light infusion of the roots of gramen caninum, lemonade; currant jelly dissolved in water, makes a most agreeable drink, so does infusion of wood sorrel, or water poured on sliced apples; but when the patients tire of one kind, we must indulge them, and change to another.

With respect to any thing more solid, it is very seldom that the patients have the least desire; when they have, the lighter kinds of panada, water-gruel, or barley-gruel, or a roasted apple, are the only things that can be given with propriety, but they are never to be forced on the patient.

The room in which the sick person lies should be dark and cool, the air should be moistened by sprinkling water and vinegar, and ought to be allowed a free circulation; but care should be taken that no stream of it come directly upon the patient. The common custom of keeping the room hot, and heaping on bed-clothes, was intended to promote sweating, but every thing that increases the heat hinders the diaphoresis; for this reason there should be no more clothes than usual, and the curtains should not be drawn, unless the patients incline to sleep; neither are they in these inflammatory fevers to be kept constantly in bed, for this exhausts the strength, renders them more restless, and increases the headach and delirium.

While the symptoms run high, the medicines are to consist chiefly of palatable saline juleps, to which it will be proper to add a small proportion either of emetic tartar, or antimonial wine. It is not unusual
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to mix some of the testacea with the juleps, as these absorbents are supposed to be useful in correcting acrimony, and promoting the diaphoresis; it has also been recommended to give nitre in small quantities along with the absorbent earths, and to keep the patients on that course during the violence of the fever; but if we are to expect any thing from nitre, we must give it in pretty large doses, as mentioned formerly.

Camphor has been much cried up in inflammatory fevers, but without sufficient reason; for if given in small doses it produces no effect, and if given to the quantity of a scruple or more, it usually occasions a particular kind of intoxication.

The seneka, or rattle-snake root, was also much in esteem while the theory prevailed which supposed an inflammatory fever to arise from lentor.

It is too common a practice, that when the patient has been blooded two or three times, the pulse nevertheless continuing hard and full, and a delirium supervening, to apply blisters; but these never fail to increase all the symptoms that depend on disturbance of the nervous system; and if unluckily there shall be a load of hot stimulating drugs thrown in at the same time, the patient will have very little chance of escaping. Great care should be taken not to apply blisters too soon, while the fibres are tense and rigid, the heat very great, the skin dry, and the pulse full, strong and quick; but when the pulse becomes soft, either in consequence of evacuations, or in the course of the fever, blistering is often found of great service, especially when there comes on a stupor and lethargic disposition, toward the stationary period.

The common practice is to blister first between the shoulders, then the legs, and in many cases the head, when there is an appearance of the brain's being much oppressed. Bathing or stuping the legs and thighs, assists the operation of blisters in relieving the head,

and therefore ought not to be omitted; neither must we allow costiveness to continue, but the belly must be kept open from time to time by clysters, more especially if bleeding has been neglected.

In these fevers there is generally an exacerbation in the evenings, but when they arrive at their height, and the crisis is near at hand, every power seems to be exerted to shake off the offensive matter, and the symptoms all grow more violent and distressing.

The first appearance of a favourable termination is generally observed in the urine, by its letting fall a whitish sediment, the skin and tongue grow moist, and soon after a plentiful sweat breaks forth: if this happens on a critical day, and the patient falls into a sound sleep, and awakes with sensible refreshment, while at the same time the head clears up, the thirst ceases to be distressing, and the crusts which covered the tongue cast off, we may then assure ourselves that things will end well, though it may take some days before the febrile symptoms altogether subside, and the pulse comes to be slower than the natural rate, which is the circumstance that gives perfect security, and authorizes us to pronounce the fever to be entirely over.

While nature is thus throwing off the disease, it will, for the most part, be of use to assist her efforts by somewhat of the cordial kind, of which nothing that the apothecary can furnish is of equal efficacy with wine; therefore, wine whey of different degrees of strength, or wine diluted, or alone, must be given according to the exigencies of the case: but as it will be expected that somewhat be ordered in the way of medicine, we may direct a mixture with the *confectio cardiaca*, or add some of the volatile aromatic spirit to the saline juleps.

But though in spite of all that has been proposed, either in the beginning or during the progress of the fever, it should still go on without any appearance of a favourable crisis, yet we are
not

not to abandon the case; because there are instances where a fever has baffled every thing that could be thought of, and the patient, when seemingly in the agonies of death, has been relieved by an unexpected effort of nature; therefore, according to Dr. Langrish's rule, we are never to leave our patients for dead before they actually are so.

In the latter end of these inflammatory fevers, when the case grows desperate, it is usual to go on, applying blisters, and giving different compositions of *confectio cardiaca*, volatile alkaline salts, camphor, and musk, which last, mixed with the infusion of valerian, is reckoned a powerful antispasmodic, and is sometimes of use in allaying the *subfultus tendinum*, and other convulsive motions that arise at these times.

It has been a practice also with some, to make an attempt on the bowels, and there are instances where purging has appeared to save the patient; but the notion of disturbing nature in her efforts to throw off the morbid matter, generally prevents the cautious physician from giving cathartics at these times.

When the skin continues dry, and the fever has got to the dangerous stage, it may be of use to try the warm bath, as there are instances where this has brought on a favourable crisis; but the want of a proper bathing vessel, and the great difficulty of taking up grown persons in the height of a fever, are the reasons why practitioners so seldom think of trying this way of relief; but a vapour-bath, which will answer full as well, or perhaps better, may be applied when the patient lies in bed*.

Such is the general scheme of treatment of a continued inflammatory fever, when in the highest degree; when the symptoms are less urgent, the bleedings, which are chiefly depended on for breaking the force of the fever, are to be made proportionally sparing.

* A little pamphlet published by Dr. Denham, shews how a vapour-bath may be very easily applied without raising the patient.

C H A P. IV.

Description and Method of Treatment of the Slow or Nervous Fever.

NERVOUS or *Slow Fevers* are frequently epidemic, after warm and moist weather, and prevail most in low damp situations: people who drink freely of wine are observed to be least subject to this species, which was not known to the authors who wrote before the present century.

The nervous fever never attacks so suddenly as the inflammatory: the patient at first grows listless, and feels light chills and shiverings, with uncertain flushes of heat and weariness, such as ensues after severe exercise. The complaints are always attended with a sinking and dejection of spirits, and more or less of pain and giddiness in the head; a nausea and disrelish for every thing soon follow, but without any distressing thirst. This nausea is sometimes increased so far as to bring on retchings, which bring up nothing except insipid phlegm. Toward night the complaints increase, the head grows more heavy, and the pulse becomes quick, with an oppressive breathing, and frequent sighing.

In this condition the patient often continues for five or six days, and the pulse, during this stage of the disease, is quick, weak, and unequal, sometimes fluttering, then again slow and intermitting: the heats and chills are as uncertain as the pulse, sometimes a sudden glow and florid colour in the cheeks, while the tip of the nose and the ears shall be cold, and the forehead perhaps in a dewy sweat. The urine is commonly pale, often limpid, and sometimes of the appearance of whey or vapid small beer, with a loose kind of matter like fine bran scattered up and down, but not falling to the bottom of the glass.

The

The tongue at the beginning is seldom dry or discoloured, but sometimes covered over with a thin whitish mucus; after the fever is formed and has continued for some days, the tongue will grow dry, red, and chapped; and however dry the tongue and lips seem to be, the patients have not sensibility enough to complain of thirst.

By the time the patients have been confined in bed seven or eight days, the pain and heaviness of the head become much more distressing and severe, and they are tormented with a noise and buzzing of the ears, which are the prelude to a delirium. The delirium however is seldom violent, or of the outrageous sort, but rather a continual muttering to themselves, and faltering in the speech; which, as the fever advances, comes to be so altered that it is no easy matter to understand what they say, and in some cases they lose the power of pronouncing altogether.

Toward the twelfth day it is frequent to see profuse sweats break forth all at once, without bringing any relief; but, on the contrary, weakening still more and more; and oftentimes, about the same period, loose watery stools, which sink the strength apace. It is observed, that when the nervous fever proves fatal, it generally carries off the patients by the time they have been confined fourteen days in their beds; if they can be supported to the twentieth, or thereabouts, they commonly escape.

But we may look for a fatal termination when we observe about this time the strength to sink, and the patients to faint when they are raised up in the bed, the extremities grow cold, the nails become pale or livid, and the pulse so quick, that it may be said to tremble and flutter rather than to beat. Soon after these appearances, we shall find them, from being exceedingly susceptible of impressions, fearful and starting at the least noise, become quite insensible and stupid, so as to be scarcely roused by the loudest voice, or affected with the strongest light.

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The delirium now ends in a constant dosing; the stools, urine, and tears steal off involuntarily; a general convulsion ensues, and soon closes the scene.

In these fevers, large crops of eruptions, of that kind termed Miliary, frequently strike out on the neck, back and breast, in consequence of the profuse sweats; but these are not to be looked on as favourable, for they are very seldom critical, or such as bring relief and shorten the fever. In general, there is seldom any thing, either in the way of eruption or discharge, that is completely critical in the nervous fever; for when the patients recover, they seem to sleep off the disease, and the fever subsides gradually and imperceptibly, without critical sweat or change in the urine.

In some instances, these fevers run to a prodigious length, so far as six weeks; but when they do, they for the most part leave a degree of foolishness or idiotism after them, which does not wear off entirely for some months, until the strength is perfectly restored.

From the description that has been given, it will be easy to know the truly nervous fever, which, we see, consists more in a disorder of the nervous system, than, like the inflammatory, in an intenseness of motion in the vascular system.

In the milder varieties of nervous fever which arise from different kinds of saburra, we are sometimes able to prevent the dangerous symptoms, by an early exhibition of gentle emetics, and small doses of rhubarb; but when the disease is a consequence of profuse evacuations, or of excesses which injure the tone of the living solids, we shall find ourselves disappointed in our attempts to stop the progress of the fever, which, when once fairly formed, will generally run its course in spite of all that can be done to interrupt it: the general scheme therefore must be, to support the patient, and obviate such particular symptoms as may chance to create remarkable distress or danger.

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When nervous fevers are epidemic, they sometimes commence with symptoms in some degree like the inflammatory; and when we meet with such cases, and find the patient can spare blood, we may take away a few ounces; but in general we may lay it down as a rule, never to repeat it, for no disease bears bleeding worse than the nervous fever: when there appears to be a great flow of blood to the head, we may then indeed order leeches to the temples, or apply cupping-glasses with scarification to the back part of the head.

At the beginning of the attack, there is sometimes such an oppression and difficulty of breathing, that the disease may be mistaken for an inflammation of the lungs, which error will have fatal consequences, if we imprudently attempt to relieve the patient by a large bleeding; but in the peripneumony, the breath is hot, accompanied with a cough and different degrees of pain, whereas in the nervous difficulty of breathing, there is no cough nor heat, the pulse is small and contracted, and the extremities cold.

At the commencement there is a necessity for gentle emetics, which these fevers bear well and require, to pump up the viscid saburra: small doses of ipecacuanha will be more proper than emetic tartar, which might perhaps ruffle too much, and add to the disorder of the nervous system.

The intestinal canal ought likewise to be cleared; and therefore, if the emetic does not produce a number of stools sufficient to carry off the load, let a mild dose of rhubarb be given next day. This may possibly prevent the breaking out of aphthæ, which frequently occur in the course of this disease.

As these fevers run out to such a length, there is a necessity for supporting the strength of the patients by diet; therefore, although they seldom complain of thirst, and have no desire to eat, yet care should be taken to make them drink frequently, though not in such quantities as in the inflammatory fever: wine is allowable, and is observed to

be of great use in keeping up the strength; good old sound claret is the best, and may be made into whey, or diluted with water, according to the state of the pulse and other circumstances, which may require the drinks to be either stronger or weaker; thin chicken broth, or beef tea, or panada and light jellies may be allowed.

When we find the pulse grow soft and full upon the use of wine, it may be indulged to a considerable quantity: it has been known to allay the delirium and procure sleep in these fevers, and has been taken with success to the quantity of some quarts in the course of twenty-four hours; the indications for giving it with such freedom are, when we find the pulse soft and low, and the patients in a comatose delirium.

It is not uncommon in these cases, for the patients to long exceedingly for cold water, and when they do so, they may be indulged, as it is only in cases of topical inflammation that danger may ensue from cold drinks.

The principal relief in the nervous fever is to be expected from blisters, and they ought to be applied early; if applied even before the disease is so far advanced as to confine the patient in bed, so much the better; for, if we wait till the nervous system comes to be greatly disturbed, and till the senses of hearing, feeling, and seeing grow more acute than natural, then blistering adds to the stimulus, and increases the distress; therefore, if blisters be not applied in the beginning, they should be delayed till some degrees of insensibility come on. They ought first to be applied to the legs, and should not be allowed to lie on longer than is necessary to produce their effect, and when cut, the cuticle should not be peeled off, nor acrid plaisters applied. When stupor and drowsiness demand the use of blisters, let them be laid to the head. These symptoms will sometimes be relieved by sinapisms; but if these applications are observed to be too sharp and stimulating, and the patient frequently pulls up his feet, they
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ought to be removed, and poultices of bread and milk laid on instead of them.

If a remission shall appear after the fever has continued for a week or longer, the bark will be found to be of great service, and the best way to give it will be, infused in claret, either alone or with an equal quantity of water. The bark will be of use in preventing the tendency to mortification, which is often observable towards the close of these fevers, in the places where blisters have been applied, or in the parts which suffer by pressure from lying so long in bed. The bark also stops the colliquative sweats: when it does not sit well on the stomach, it may be given in clysters.

If convulsions supervene, musk is the medicine chiefly to be depended on: it should be given from ten grains to a scruple in each dose, if we expect it to do service, and the best vehicle will be infusion of valerian; saffron, once esteemed so great a cordial, is found to have no sensible virtue of this sort, as it may (if we believe late experiments) be given to the quantity of two drachms, without producing any change with respect to the pulse.

The diarrhoea, which frequently occurs, and generally wastes the patient, ought, if possible, to be checked; this, however, is what we are seldom able to accomplish. The decoctum album, with a proper quantity of red port wine, will be a proper drink in these circumstances, and we may try what can be done by the use of a mixture with the pul. e bolo comp. in cinnamon water.

When aphthæ appear, they are often accompanied with ulcerations in the throat; in order to cleanse these, and make the swallowing easier, we must direct a gargle of decoction of figs, with mel rosaceum, and a little tincture of myrrh. If the swallowing be nearly obstructed by the load of viscid phlegm, we must attempt to gain relief by gentle emetics of ipecacuanha; or if these do not operate sufficiently, small doses of the emetic tartar.

C H A P. V.

Description, and Method of Treatment, of the Putrid Continual Fever.

THE fourth species of continued fever hath its denomination from the depraved state of the fluids, which are either corrupted previous to the disease, or quickly pass on to the putrescent state.

This species, before Dr. Langrish's time, was confounded with the nervous; but though both nervous and inflammatory fevers, toward the close, often shew that by that time the crasis of the blood is destroyed, yet we are not to confound them with this, wherein, from the very beginning, there is some peculiar acrimony, which dissolves the bond of union among the insensible particles, and allows them to run into combinations opposite to the mild, smooth, and emollient nature of blood in the healthy state. The blood, when thus dissolved, often transudes, and runs off by actual hæmorrhage, or mixes with the lymphatic juices and mucous secretions.

The morbid matter which gives rise to putrid fevers, appears in some cases to be generated gradually within the body, and is deemed the consequence of feeding on ill-cured animal food, without a sufficient quantity of sound vegetables to correct the putrescent tendency.

At other times, putrid fevers are caught by infection, and are caused by those subtle matters termed Miasmata, which take their rise in different ways, and are capable of being conveyed to distant places.

It was observed on a former occasion, that we must confess our ignorance of the intimate qualities of the various kinds of subtle matter which produce the different species of fevers, as well as some other diseases; neither can we explain the manner in which these
miasmata

miasmata change the healthy state of the blood, nor give any more satisfactory account, than by likening them to ferments, which excite different degrees and kinds of intestine motion, among the insensible particles of the fluids with which they happen to be mixed.

The distinguishing symptoms of a *Putrid Fever* are, degrees of weakness, oppression and nausea, more remarkable either from the first attack, or very soon ensuing, than what we meet with in any other species; and this extreme and sudden prostration of strength is, for the most part, accompanied with as remarkable a despondency, or dejection of mind; or, which is still more alarming, with an uncommon degree of insensibility and want of apprehension.

Though putrid fevers sometimes come on gradually, with complaints of languor, loss of appetite, nausea, and a dull pain in the head; yet they are always more violent and sudden in their attack than nervous fevers, though seldom so much so as those of the inflammatory species.

When the fever absolutely begins, it attacks with coldness and shivering, accompanied with nausea and vomiting, vertigo or giddiness, and confusion in the head. This sensation of excessive cold, as was formerly explained, is soon changed into excessive heat; but the heat at first is not so great as in the inflammatory fever, though it increases daily, and gives the sensation of smarting to the fingers of those who feel the skin of the sick person.

In many cases, putrid fevers begin with false appearances of inflammation, the pulse being full and strong; but it soon changes, especially after bleeding, and sometimes sinks so, that we are never able afterwards to get it raised; hence, in all fevers, where we find the strength fail remarkably from the first onset, and observe the patient scarce able to support himself, we are to be very cautious about the quantity of blood to be taken away, for this extraordinary weakness is a sure sign of a putrescent diathesis.

Beside the giddiness and confusion of the head, there is often a severe pain in one or both eyebrows, and at the bottom of the socket; the eyes at the same time appearing full, heavy, and, as it were, inflamed; which redness, however, is more owing to the lymph's being tinged, from a dissolution of the blood, than from an inflammatory distension of the vessels; at other times, the eyes have a yellowish cast, owing to the same dissolution, and not, as in a jaundice, to the resorption of bile.

The tongue, though only whitish and moist at the beginning, grows daily more dark coloured and dry, until at length it becomes almost quite black; and this blackish tinge does not disappear entirely for some days, even when the fever terminates by a favourable crisis. The thirst at first is but moderate, but increases daily as the fever advances; no kind of drink pleases, but all seem either bitter or maukish. When the case grows very bad, the patient loses the sense of thirst, notwithstanding the tongue, together with the lips and teeth, are at this time parched up, and covered with dark coloured fordes.

The nausea and oppressive sickness never abate; and it is usual for the patients to fetch deep heavy sighs often, and seem, as it were, to pant for breath.

The state of the pulse is various, especially in cases where the fever arises from infection, for the morbid matter will produce a considerable diversity with respect to disorder in the vascular system, according as it happens to take place in strong athletic habits, full of blood, and in weak exhausted subjects with poor watery fluids.

The urine is equally various with the pulse, depending on diversity of constitution likewise. In cases where the putrescent diathesis is very prevalent, the urine is crude, and often very offensive in its smell.

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When the fever sets out with symptoms of inflammation, the belly is bound at the commencement of the disease; but where the dissolution of the blood is great from the first, it is usual to see a looseness soon come on, and the stools prove extremely foetid.

Toward the close, sometimes much earlier, in many cases of putrid fever, the skin strikes out in reddish, purple, or livid spots of different magnitudes, which seldom or ever bring any relief from the oppression, sickness, and other distressing symptoms. The nearer they approach to a livid or blackish colour, the more alarming their appearance, while, on the contrary, when they continue of a brighter red, the more favourable the prognostic.

Miliary eruptions also frequently appear toward the twelfth or fourteenth day, and succeed the profuse sweats, which are not uncommon about this period of the fever. These are seldom of a more salutary nature than the petechiæ.

Aphthæ appear on the tongue and inside of the mouth; and soon after they shew themselves, there is generally more or less of a putrid ulceration in the fauces, preying upon the tonsils, which sometimes comes to be so severe as to hinder swallowing, and thus hasten the fate of the patient.

Though these eruptions hitherto mentioned can never be considered as benign, yet it is observed, that when scabs appear about the nose, lips, and corners of the mouth, it is a favourable sign, and affords hopes of the patient's recovery.

The pain, heaviness, and confusion of the head, which are among the first symptoms, are soon followed by delirium, different in degree in different subjects, in some, accompanied with tossing and restlessness, in others, with a dosing and lethargic disposition; and it is observable, that in these cases, where the patients are in this comatose state, the pulse is sometimes not quicker, weaker, nor more irregular than in the time of perfect health.

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The time of duration of putrid fevers is very different; in the worst kind, the persons seized frequently die within the compass of the first week, but more commonly they hold out to the end of the second; when they get over three weeks, the patients usually recover, and there are instances of putrid fevers running so far as six weeks; these, however, must have been such as have not been attended with a putrescent state of the fluids from the first attack.

We may entertain hopes of a favourable issue, when the pulse grows stronger, and more equable; when the senses begin to clear up, and warm sweats in moderate quantity break out, and the patient lies under them without tossing or raving, the urine at the same time shewing marks of concoction by depositing a whitish sediment.

But if the pulse sinks, and grows more quick and intermittent withal, the tendons start, the tongue falters, the features change, the sick person lies on his back in a comatose state, slides down in the bed, and is constantly fumbling with his fingers, and picking about the bed-clothes; if cold clammy sweats break out, and the urine or fæces come away involuntarily, the hypochondria being tense, and the extremities cold, we may consider the case as desperate.

If called in at the beginning, we are to endeavour to prevent the fever from forming, and must try what can be done; by first taking away some ounces of blood, in such cases as shew signs of strength, and tendency to inflammation, and then, by giving the emetic tartar in small doses, repeated every second hour, till it shall either puke, purge, or throw the patient into a plentiful sweat; but when we observe signs of great weakness from the very first attack, and the circumstances of the case are truly such as will not bear bleeding, then we must have recourse to the antimonial alone, but not push its operation so far as to excite profuse discharges, which might sink the patient.

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If the small doses of emetic tartar do not pass downwards, it will be proper to give some gentle laxative that shall produce this effect; but we are to be guarded in the use of sudorifics, and not run too hastily into the administration of stimulants, such as the contrayerva, or snake-root, nor the volatile alkaline salts and spirits. These last, in the opinion of Dr. Huxham, add fuel to the fire, and tend to increase the putrescent diathesis; but Sir John Pringle is less afraid of them, because his experiments shew them to be antiseptic. Perhaps they are not so injurious as Huxham apprehends, but they are not the things from which we are to expect much real service, nor imagine that their exhibition will accelerate the crisis.

Blisters are seldom observed to be of use in the beginning of a putrid fever, though that is held to be the best time for applying them in the nervous; but in the latter stages, and when the patients begin to grow comatose and insensible, then blistering is often followed with happy effects.

But there is one medicine which has been found to contribute greatly to the recovery of persons labouring under putrid fevers, and that is, the peruvian bark: for this has been observed to preserve the patient, even when the blood has been so far dissolved, as to make its way through the coats of the vessels, and run off from many parts of the body, being doubly useful as a strengthener to brace up the debilitated fibres, and as an antiseptic to correct the putrescent state of the fluids.

In many other fevers (as we shall see hereafter) we are obliged to wait for an intermission, or at least a remission, before we venture to begin with the bark; but in these malignant and highly putrid fevers, this is not to be regarded, and it must be given as soon as we are convinced of the dissolution of the blood, from the numerous petechiæ, or from the hæmorrhages.

It is usual in these cases of hæmorrhage to give the vitriolic acid along with the bark; and if this does not check the bleedings, alum, to the quantity of eight or ten grains, with two or three of powdered nutmeg, every fourth or sixth hour, may be tried.

The strength at the same time is to be supported by wine; and if there be any appetite, the patient should be fed with gruel or panada, sharpened with the juices of subacid fruits; or should be indulged with the fruits themselves, when these are procurable, and in season.

The drinks in general should be of the subacid and antiputrescent kind, lemonade, rhenish wine, or old claret, diluted with water, will be extremely proper; or, when the patient tires of these, wine-whey of different sorts.

The air of the place where the sick are confined should be kept as pure and as well ventilated as circumstances will allow; the floors should be sprinkled with vinegar, and aromatic herbs strewed all about; after the sickness is over, there is nothing so effectual in destroying the remains of infection as fumigating the room with brimstone.

These are the general methods of managing a putrid fever; but we are to vary and adapt them to the different likings and circumstances of the patient, and endeavour to support the strength, and assist Nature in subduing or expelling the morbid matter. This expulsion is sometimes the occasion of abscesses in different glandular parts, such as the parotid, axillary, or inguinal glands. And sometimes an exceedingly acrid and caustic matter shall settle on the legs, and produce a sudden mortification, or perhaps about the os sacrum, where the parts from continual lying are irritated, and solicit the afflux of an acrimonious humour, that soon mortifies the teguments, and forms thick sloughs, which, when they cast off, leave deep and spreading ulcers; but these cases happen oftener in hospitals than in private practice.

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The cortex, in these circumstances, is the thing we are chiefly to confide in for promoting the separation of the mortified parts.

There are particular symptoms which occur frequently in the course of these fevers, and demand particular attention.

If a profuse diarrhoea should supervene, and threaten to sink the patient, we are not to think of restraining it all at once; for, if even that could be accomplished, it would not be advisable; the most proper scheme therefore will be, to try, by very small doses of ipecacuanha, repeated every third or fourth hour, to promote a diaphoresis, and by that means relieve the bowels.

Violent vomiting may be restrained by sal absinthii, or some other mild fixed alkaline salt, mixed with juice of lemons, and swallowed during the effervescence*. This is usually termed the Antiemetic Mixture, and is presumed to correct the colluvies in the stomach and flexure of the duodenum, and thus may be of use in removing part of the source of the fever; therefore, in cases where there is great nausea, and signs of putrid saburra, these antiemetic draughts, repeated every four or six hours, will bid fair to shorten the disease.

It is not uncommon, after putrid fevers, for people to become dropfical, or to have œdematous legs; but these complaints may be removed by strengtheners, and not by purging, as in other dropfical cases. Where the bark has been freely used, such swellings seldom happen.

When the fever is completely over, it will be proper to exhibit a lenient purge or two, lest any offensive matter should accumulate again in the first passages, and endanger a relapse. Care should also be taken to recover the tone of the viscera, by the means of light and easily digestible food, taken in moderate meals; and by aromatic bitters, such as the calamus aromaticus, orange-peel, and camomile

* A scruple of sal absinthii, to a spoonful of lemon juice, is the usual dose.

flowers, made into proper infusions, together with the use of chalybeate waters.

MIXED FEVERS.—Thus we have gone through those species of continued fever, which are so distinctly marked, that we can give them a determinate appellation; but, as was formerly observed, there are violent fevers which occur in practice, wherein the symptoms are so blended, that it is difficult to say what species they belong to, and therefore we are under the necessity of terming them Mixed Fevers.

The method of cure in all cases of mixed fever must be regulated according as the disease shall be found to tend most to the inflammatory, to the nervous, or to the putrid; and, consequently, we are to adopt the antiphlogistic course; pursue the strengthening and antispasmodic scheme, or the strengthening and antiseptic, according as we shall happen to find the signs of inflammation, of nervous disturbance, or of putrefactive diathesis, to prevail most.

C H A P. VI.

Varieties of the different Species of Continued Fever.

IF all the writers who have attempted to give histories of fevers had been as accurate in their descriptions as Sydenham, and had equally attended to the minute circumstances which vary the appearance of the disease, we should probably have been enabled by this time to refer the different varieties to their proper species; but as few of those who succeeded that great man, have had the same happy talents for recording their observations, the history of fevers is still in a state of imperfection: no one, indeed, excepting Sauvages, has hitherto pursued the plan laid down by Sydenham, and therefore the medical world must wait till the systematic method of arrangement

ment comes to be universally adopted, before it can expect a complete history of diseases.

The varieties of the *simple continued fever* are,

1. *Febris plethorica*; the simple fever arising from overfulness and intemperance.

2. *Febris a frigore*; the fever from obstructed perspiration, vulgarly termed a Feverish Cold; accompanied with cough, and generally hoarseness and defluxion from the nose.

3. *Febris à calore*; the fever from being overheated, whether by violent exercise, from being confined in warm rooms, or exposed to a hot sun.

4. *Febris à dolore*; the fever which ensues from external injuries, exciting severe pain; such as wounds, fractures, dislocations, &c.

5. *Febris catarrhalis*; the catarrhal fever, is usually epidemic; in some seasons remarkably so, and capable of having its progress traced from one country to another.

Descriptions of different catarrhal fevers have been occasionally given by different writers: that which was general in and about Dublin in May 1762, began about the middle of the month, with lassitude, pain and heaviness of the head, and particularly a pain across the eyebrows; a severe cough, a soreness and rawness of the throat and chest, great defluxions from the nose, and sometimes eyes, loss of appetite, but the heat only a little more than the healthy degree: such was the attack in general, but in many the heat became very distressing, and the febrile symptoms of thirst and restlessness ran high. In those who were thus highly feverish, the disease began with coldness and shivering; in general the pulse was not quickened nor raised, but rather more slow and depressed than in health. There was, for the most part, a disposition to sweat, which usually returned every night with an exacerbation of the febrile symptoms. In such as were but slightly affected, the promoting a sweat, by taking some whey and spirit of hartshorn, carried off the disease in a day or two.

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In many it had a regular intermittent form, in most a remittent. Some had great oppression in their breathing, which was relieved by bleeding: the blood was not often found fizzy, but when it had any of the inflammatory crust, this was of a yellow hue, and the serum muddy and yellowish.

In the greater number the disease went off by a critical sweat; in some there was a red efflorescence like the measles, and in a few the fever was carried off by a diarrhoea.

In those who were not properly taken care of, the symptoms continued for a week, and sometimes more, and a remarkable languor continued in most for some days after; and those who had been previously weakened by any former disease, or who had tender lungs, did not completely recover for a considerable time.

A fever, perfectly similar, raged in Dublin in the years 1729, 1732, 1733, 1737, and 1743. This, which hath been just now described, visited Copenhagen a month before it reached London, and raged in London about a month before it spread to Dublin; it had also run through Alsace and Flanders.

The influenza or catarrhal fever of 1767, began to make its appearance in Dublin about the beginning of July; about the middle of the month some hundreds of the soldiery in the barracks were seized within the course of a few days; and by the twentieth it prevailed throughout the whole city, and soon after reached every province of the kingdom, though it was not so universal as the fever of 1762, nor so distressing; none died, but a few of the aged and infirm, among whom was the Lord Bowes, chancellor of Ireland. Its first attack was with lassitude, shivering, pain of the head, and frequently shortness of breath. When the nose began to run, the febrile symptoms abated; and this being succeeded by a copious sweat, carried off the disease; but left a considerable degree of weakness and languor: the period of the fever was from three to seven days*.

* The author is obliged to Dr. Rutton of Dublin for the above history of the catarrhal fever.

Varieties of the *inflammatory fever* are,

1. *Febris inflammatoria cephalalgica*; besides the symptoms distinguishing the particular species of fever, this is attended with a most excruciating pain of the head. To relieve which, the head must be close shaved, and bathed in vinegar; the legs must be stuped with a warm fomentation, and blisters applied to them, and sinapisms to the soles of the feet.

2. *Febris inflammatoria soporosa*; distinguished by a constant stupor and drowsiness, which require blistering on the head.

3. *Febris inflammatoria pleuritica*; wherein a stitch of the side gives distress. The pain is not so severe nor so deeply felt as in the genuine pleurisy, neither is the breathing so difficult, and there is no coughing nor expectoration. This stitch will be relieved by blistering upon the affected part.

4. *Febris inflammatoria rheumatica*; nearly allied to the former, only here the pains are more general, and affect the joints, limbs, and fleshy parts of the body. Large doses of nitre have been found to procure speedy relief. The urine in this fever is sometimes found so replete with salts, that they chrySTALLIZE and adhere to the sides of the glass, or float on the surface of the urine.

5. *Febris inflammatoria dysenterica*. The dysenteric fever, attended with dry gripes, described by Sydenham, was very frequent during certain seasons that the dysentery raged. The cure consisted in gently solliciting the discharge of the irritating matter, and carrying it off by stool.

We are not enabled to subjoin any varieties of the *nervous fever*, because the authors who have written concerning it, have at most only described the species; but any person conversant in practice may readily perceive that there are varieties which an observer such as Sydenham was, would not have failed to remark, had the nervous fever occurred in the course of his practice.

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In particular, the disease which Dr. Whytt has described so accurately under the name of the Internal Dropsy of the Brain, appears to be a nervous fever, and might rather be termed the *Hydrocephalic Fever*, because the appellation of Dropsy gives the idea of a chronic disease. We may therefore consider this as a variety, distinct from the *febricula*, or *febris nervosa communis*. This is the most deceitful perhaps of all the febrile diseases; for which reason it is recommended to practitioners to read Dr. Whytt's description with due attention, otherwise they will be exceedingly surprized to see their patients fall into convulsions, and expire in a few hours, when there have been none of those preceding symptoms and appearances, which usually serve to foretell such a fatal termination. The pulse, from being small, hard, and frequent, becomes suddenly full, soft, and slow, but *intermittent*; and this is the circumstance which points out the fatal change that we are soon to expect: the other appearances are generally flattering, and such as promise security, for the patients seem to feel little pain or distress; they are not delirious; have no great thirst; nor much more heat than what is natural; and are so free from oppression and sickness at the stomach, that they have been known to speak cheerfully, and even to eat with an appetite within a few hours of the convulsive attack, which carries them off. Children and young women are the most liable to the hydrocephalic fever.

We are better furnished with respect to the *putrid fever*; for of this species several varieties have been observed and described by different writers. Of which the principal are,

1. *Febris carceraria*; the jail or hospital fever, so well described by Sir John Pringle. This prevails in places of confinement, where numbers of people are crowded together, while the air being seldom renewed, noxious steams arise from the filth of various sorts. Except by a tremor of the hands, the disease is not easily distinguished in
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the beginning from any common fever. When the fever advances, the patient complains of great lassitude, a nausea, pains in the back, and confusion of the head, and then is perceived an uncommon dejection of spirit. At this time the pulse is not sunk, but beats quick, and often varies in the same day as to strength and fulness. If bleeding happens to be incautiously administered, the pulse sinks irrecoverably, and in every case, independent of evacuations, it sooner or later sinks, and then gives certain indication of the malignity of the disease.

The method of cure which was found most successful, consisted in giving small doses of emetic tartar in the beginning, but in the more advanced state, and toward the close of the fever, the cortex with wine, and radix serpentariæ were freely administered. This fever is highly infectious, as hath been often fatally experienced.

2. *Febris maligna Hungarica*. A very destructive fever that arose among troops encamped in a marshy soil. Extreme weakness was the predominant symptom; the heat of the body not sensibly increased; the pulse excessively quick, uneven, and so small as scarcely to be felt; the breathing straitened and oppressed; the mouth dry, but little complaint of thirst; urine various without sediment; great restlessness, anxiety, and delirium.

3. *Febris maligna Ægyptiorum*, described by Prosper Alpinus. Begins with vomiting, pain in the stomach, and anxiety, followed by fetid stools; heat of the body not more than natural; the tongue rough, dry, and black, but no complaint of thirst; pulse and urine like to those of people in health.

4. *Febris Icteriodes Carolinensis*, or yellow fever, described by Dr. Lining, as raging in South Carolina from August to October 1748. It was a most violent putrid fever, wherein the blood was so dissolved as to run off by all the natural passages. If it did not prove mortal within the first three or four days, it went off without

any critical discharge, and left the patient all over yellow, totally deprived of strength, and with a pulse so weak, that upon the least raising up or stirring the body, it would cease to be felt. The negroes were not seized with this disease, but it was peculiarly severe among the white people, especially strangers from the northward.

5. *Febris icteroides Canadensis*. The yellow fever brought from Canada by the seamen who returned from the taking of Quebec, described by Dr. Lind. In this yellow fever the blood was found to be viscid and glutinous, the serum yellow and bitter, as if foot had been mixed with it. Saline mixtures, with the cortex and rad. serpentariae were found of great service, as also blistering, which seemed to procure evident relief.

Though there are other varieties of putrid fever, they are remittents, and will be considered hereafter.

In these countries of Britain and Ireland, the continued fevers most commonly met with, except in particular seasons when epidemics happen to prevail, are either of the *simple* or *mixed* species. The varieties of the former have been already noticed, of the latter we may distinguish,

1. *Febris depuratoria* of Sydenham. This fever Sydenham looked on as the species that tallied best with the Hippocratic doctrines of concoction and crisis, in respect of the regular method which Nature uses to accomplish the digestion of the morbid matter in a limited time.

Beside the symptoms which are essential to fevers, this had these in particular: 1. A great faintness, vomiting, a dry and black tongue, great and sudden loss of strength, a dryness of the surface of the body, urine constantly either turbid or thin, a looseness in the decline, unless the physician happened to stop it at first, whereby the disease was prolonged and rendered more obstinate; its general termination was in 14 days by a sweat or gentle moisture, proper
signs

signs of concoction now, and not before, appearing in the urine. If the disease was exasperated by improper treatment, other symptoms arose of a more alarming and dangerous tendency. When Sydenham first began to make his observations, he acknowledges, that he was not aware there was any other species of fever than this. His scheme of treatment was, to keep the febrile commotion within bounds, so as to prevent its rising too high on the one part, or sinking too low on the other, whereby either the exclusion of the morbid matter might be hindered, or its assimilation with the blood be frustrated. And this scheme was agreeable to his idea, that the fever was excited in order to separate some noxious and heterogeneous matter, or else to change the blood into a new state.

2. *Febris sudatoria*, described by the same author, as being epidemic from 1665 to 1667. This fever was attended with more severe and longer continued vomitings than the foregoing, and a more excruciating pain of the head; the blood was fizy, the crisis happened earlier, and it terminated by a copious sweat.

3. *Febris comatosa*, epidemic in the years 1673, 1674, and 1675. It began with heat and cold alternately succeeding; violent pain in the head and back; stupor; pains like the rheumatism, but milder, in the limbs and joints; the thirst not distressing, and the tongue moist; urine at first like that of persons in health, as the fever advanced it became intensely red; but the most distinguishing symptom was an unusual propensity to sleep: the patients continued in a comatous state, and could not be awakened without loud noises, and then would only open their eyes, and having swallowed what was given them, fall into a sleep again. This fever sometimes ran out to 28 or 30 days.

Repeated bleedings did harm, but clysters thrown up frequently, and blistering with freedom, were of great service. The patients were the better for being kept some hours out of bed every day.

4. *Febris variolosa* of Sydenham, so called because it had some symptoms in common with the small-pox that raged in the years 1667, 1668, and 1669.

The patient was seized with a pain below the pit of the stomach, and such a foreboding that he could not bear to have it touched, (this symptom attended the small-pox of these years); a pain in the head, a heat in the whole body, and also petechiæ; little thirst, the tongue like that of a person in health, rather dry, sometimes white, but never black; profuse spontaneous sweats in the beginning, which afforded no relief, and being promoted by a heating regimen and medicines of the like nature, soon endangered a delirium, augmented the number of petechiæ, and rendered all the other symptoms more violent; the urine, from beginning to end, seemed to separate and give hopes of recovery, but did not relieve the patient more than the sweats above mentioned.

This fever by wrong management generally proved obstinate, neither terminating by the way of crisis, nor imperceptibly in the manner of many other fevers, but continued for six or eight weeks, unless death interposed; but when no considerable evacuation had preceded, and cooling juleps had been used, a pretty plentiful salivation sometimes rose toward the decline, whereby the disease was carried off beyond expectation, provided this discharge was not checked by evacuations, or the use of heating medicines. This salivation being the natural crisis of the fever, Sydenham directed his scheme of cure so as not to interrupt the progress of the disease. The patients were not suffered to remain in bed constantly, but kept up some hours every day, which was found of great service in checking the profuse sweats, and hindering the increase of the petechiæ.

5. *Febris hyemalis*, the winter fever. This is a sporadic catarrhal fever, which occurs frequently from the beginning of winter to the beginning of spring.

Pains of the head and limbs, and universal restlessness, with alternate paroxysms of heat and cold, begin the disorder; the tongue is white, the pulse much the same as in a healthy person, urine turbid and high-coloured, blood with the inflammatory crust, the whole generally accompanied with a cough, but no great straitness of the chest, nor difficulty of respiration.

Bleeding and repeated cathartics carry off the fever; but if the patient be confined in bed, and be tormented with heating things to raise sweats, a delirium, a lethargy, a weak and irregular pulse, a dry tongue, and red or livid eruptions will probably ensue. For the tendency to inflammation being very great, every thing hot and stimulating, and constantly lying in bed, will infallibly create high degrees of febrile commotion, and perhaps throw the morbid matter on the brain.

6. *Febris verminosa*, the worm-fever. There are no fevers of such a mixed nature, or which put on such a variety of appearances as those that are occasioned by worms. The anomalous symptoms are usually those of the purely nervous kind; whence the disease might, for the most part, be considered as a variety of the nervous fever.

Children from two to ten years of age, are mostly the patients in cases of worm-fever. The whitish urine, stinking breath, irregular state of the bowels, sometimes bound up, and sometimes uncommonly loose, with griping and slimy stools, grinding the teeth during sleep, rubbing the nose while awake, joined to a whimsical and uncertain appetite, are sufficiently plain evidences of worms. To dislodge these, or the slime in which they inhabit, there is nothing so sure and effectual as repeated doses of calomel purged off with rhubarb; therefore, in the cases of fevers in children where worms are suspected, we must trust chiefly to these remedies, and lay little stress on any of the other things which are usually prescribed in

febrile diseases. The fever generally subsides immediately on clearing the intestines; if it should not, the antimonials in small doses are to be given, as they seldom fail to take off, or at least moderate the distress. In order to secure the recovery and prevent a relapse, nothing answers better than a light tincture of the hiera picra, or of rhubarb in lime-water, taken every day in such quantities as shall keep the belly gently open.

C H A P. VII.

History of Intermittent Fevers or Agues, and Methods of Treatment.

I*NTERMITTENT Fevers* are endemic in countries where the soil is damp, and in such situations these diseases break out regularly every spring and autumn; in other places, agues seldom appear but as epidemics, in particular seasons only.

Feeding chiefly on crude and watery vegetables, dejection of mind, immoderate evacuations, and every thing that impoverishes the blood, or weakens the tone of the solids, will create that morbid disposition which favours the production of intermittent fevers; and hence it is, that these are observed to be more frequent among the poor than among the rich.

It has also been remarked, that agues are more violent in the country, and in farm-houses, than in large villages or towns, where the bad effects of a noxious atmosphere appear to be in some measure corrected by the smoke from numbers of fires; and it is said, that keeping on large fires during seasons when intermittent fevers are common, tends greatly to the preservation of health.

The paroxysm of an intermittent fever, is to be distinguished into three stages; the cold fit, the hot fit, and the sweating.

The cold fit begins with yawning, stretching, and a certain uneasy sensation in the small of the back, and at the ends of the fingers; then

then comes on the excessive cold, accompanied with shivering, which is sometimes so severe as to shake even the bed where the sick person lies; nevertheless, at this time, it appears from the thermometer, that the real heat of the blood is rather increased than diminished. Along with this excessive coldness, there is a difficulty of breathing, with high degrees of oppression, nausea, and frequently vomiting. In the mean while the blood forsakes the lips and cheeks, the nails are livid, and the whole skin is so shrivelled up and contracted, that the rings which, before the fit, were tight to the fingers, will now drop off: the pulse is weak but quick, and if there be any urine made, it is pale and limpid.

The duration of the cold fit is uncertain, sometimes it will continue four or five hours, in other cases it will not last more than half an hour; but in general it will be found to hold between one and two hours. For the most part it is observable, that the longer the cold fit lasts, so much the more violent the ensuing heat; this, however, is not constant, for when agues run out to a great length, the sensation of cold gradually diminishes.

When an ague proves mortal, (which is however seldom the case) it has been generally said, that death happens in the cold fit; and it has been averred, that dissections have shewn the immediate cause to be an accumulation of blood in and about the heart, oppressing and overdistending the large vessels at the center, the ventricles and auricles, together with the venous sinuses, and the two large arteries being found loaded with coagulated blood. This way of accounting for the death of the patient, agrees perfectly well with the theory of intermittent fevers, which supposes the cold fit to consist in a stoppage of the circulation in the extremities of the finer arteries, no matter whether it be owing to lentor or to spasmodic constriction. But Dr. Lind, who has seen many hundreds of ague-cases, says, he never saw a person die in the cold fit, though he has known several carried

carried off in the hot one; and he is clearly of opinion, that it is the hot fit which not only endangers the patient's life, but also, in most cases of intermittent fever, by its continuance, weakens and impairs the whole habit of body.

That there is an accumulation of fluids at the center during the continuance of the cold fit is not to be doubted, but the heart in a short time recovers itself sufficiently to shake off the load; at the beginning of the hot fit, the anxiety, sickness, and difficulty of breathing remain, but gradually diminish as the pulse grows fuller and stronger. Along with the heat, which is generally greater while it lasts than it is in most species of continued fever, there is an excessive thirst, violent headach, and frequently delirium, or in very bad cases a degree of stupidity or coma: the breathing is quick but free; the pulse strong, full, and rapid, and the urine red or high-coloured.

The duration of the hot fit is uncertain, and determined by a variety of circumstances, but it is almost constantly succeeded by a profuse sweat, which terminates the paroxysm.

After an apyrexia or interval of ease, which is different in length according to the species of the ague, the same cold and hot fits return again and again, until the fever either spends itself and ceases spontaneously, (which often happens in those intermittents that prevail in the beginning of summer) or until the physician interposes and stops the progress of the disease.

Since it is impossible to know at the beginning, whether a fever will turn out continual, remittent, or intermittent, we must always wait for some days before its true form can be ascertained; and during this time, if assistance should be required, we shall naturally proceed to take away some blood, if the pulse and other circumstances be such as shall demand this mode of evacuation; we shall likewise, if there be manifest indications for an emetic, direct one; and

and also, if the bowels are not emptied in consequence of taking the emetic, we shall order some proper cathartic medicine: very often these means will be found sufficient to carry off the complaints; but if they should not remove the febrile symptoms, then we are to try, as hath been formerly directed, antimonials in small doses.

This method will be proper, let the fever turn out as it will; but if it shall be found in the course of a few days to be an intermittent, and not likely to go off by a natural crisis, we must then have recourse to the Peruvian bark.

The method of exhibiting this very capital medicine must be varied according to many circumstances, which are often not to be collected but on the spot, and which must determine whether it shall be swallowed in a mixture, electary, bolus, pills, decoction, or infusion.

Where it can be so taken, the most efficacious way is to give it in a mixture, the powder being shaken up with claret, (which was Sydenham's method) or with some distilled simple water warmed with a little brandy or other ardent spirit. In this form the patient must take, during the interval, as much of the medicine as will serve to prevent the return of the fit; adults generally require from six to eight drachms, and the length of the apyrexia will determine the times when it ought to be taken. If the ague be a *quotidian*, wherein there is a fit once in every 24 hours, the interval will be so short, that the patient will be obliged to take his dose of bark every second hour. If it be a *tertian*, wherein there is an apyrexia of at least 24 hours, every third, or perhaps every fourth hour will be often enough for the proper quantity to be taken. But as it hath been observed, that the bark is most certain in its effects when the full quantity is in the body at the time the return of the cold fit is expected; in those agues where the apyrexia is long, the doses ought to be given so as to leave the requisite proportion of the medicine in the

stomach at the time when it is found to be most effectual. Thus, in the *quartan* ague, where we have 48 hours free from the fits, the first day of the apyrexia may be allowed to pass without taking any bark, but on the second let it be given every two or three hours.

Though the first ounce or two of the cortex should be found to prevent a return of the fever, yet we are not to desist immediately from the use of it; but on the contrary to give a dose every fifth or sixth hour for two or three days, in order to secure against a relapse; after that, the medicine may be given only twice a-day for one week, and once a-day for another week; the patient all the while taking care not to expose himself to the night-air, and avoiding every sort of food that is cold, flatulent, and watery.

Removing into a purer air and gentle exercise, especially riding, will contribute greatly toward a complete recovery. The diet in intermittent fevers ought to be light but nourishing; flesh meat is allowed; wines, and particularly those of the astringent kind, are proper, but malt-liquor is usually forbidden. During the cold fit, the universal constriction of the pores occasions great thirst, but nevertheless it is not proper to allow the patients to take large draughts of any kind of liquor; as the hot fit comes on, they may then drink freely of sage-tea, two-milk whey, or very weak wine-whey.

The cortex seldom fails to remove a quotidian or tertian ague; but it will sometimes miss in the quartan. In this last mentioned species, neither the cold nor the hot fits are so long, nor so severe as in the tertians, the whole period seldom lasting more than four hours. The appetite in the quartan ague is often observed to be rather voracious; whereas, in the quotidian and tertian, the desire for food is usually much impaired during the whole course of the disease.

In quartan agues the morbid matter is presumed to be of a more fixed nature, and to be more deeply rooted than in any of the other

two species ; therefore, in the cure of these we are often obliged to have recourse to things of an aperient and deobstruent nature, as well as to the cortex ; and as the disease sometimes runs to a great length, the patients naturally grow tired of any one form, which will oblige the physician to vary his method, and perhaps try other things beside the cortex, of which there is no small choice ; for there is scarce any disease for which there is a greater variety of empirical remedies than for an ague. Dr. Lind has been at the pains of collecting many of these, which are inserted below in the note *,

* In the cold fit, or just before its approach, are taken from a glass to half a pint of brandy by itself, or a glass of brandy with a grated nutmeg, with half an ounce of brimstone, or with the same quantity of powdered oyster-shells.—A quarter of a pint of gin with a tea-spoonful of pepper.—A glass of usquebaugh with a spoonful of lemon juice.—A pint of wine taken by itself, or a glass of it with the white of an egg, with a spoonful of the juice of houseleek, or with the same quantity of the juice of plantain.—A spoonful of the spirit of turpentine.—Four spoonfuls of the juice of rue.—Half a pint of the juice of nettles.—Half a pint of the juice of groundsel.—Half a pint of strong decoction of cinquefoil.—Half a pint of a strong decoction of spearmint in milk.—A pint of a strong decoction of horse-raddish in stale beer.—A pint of strong beer in which some broken pieces of glass-bottles or of flint-stones heated in the fire have been quenched and boiled.—A whole lemon.—A vomit of sea-water.—The snuff of a candle with nutmeg.

In the intervals of the fit are taken bay-leaves dried and powdered, to the quantity of a drachm three times a day.—The inner bark of the ash, from half a drachm to a drachm, with a scruple of salt of wormwood, taken four times a day.—The inner bark of the elm near the root, to the quantity of a drachm three times a day.—Half a drachm of the root of black-thorn, taken three times a day.—Half an ounce of brimstone in a glass of strong beer, taken three mornings successively.—Half an ounce of mustard-seed in half a pint of gin, three mornings successively.—A common spider gently bruised and wrapped up in a raisin, taken either in the cold fit or three successive mornings.—Five grains of cobwebs mixed with crumbs of bread twice a-day.

External applications are a hard boiled egg split, and applied hot to the wrists.—Camphire and saffron hung in a bag at the pit of the stomach.—Bruised spiders and tobacco applied to the wrists.—Petroleum applied either to the feet or wrists.—Yarrow to the feet.—Rue, with the buds of honeysuckle, bramble, and elder, to the wrists or feet.—Mouse ear with vinegar and salt ; also wallpepper, shepherd's purse, and vervain, applied to the same parts, about an hour before the fit. Essay on Diseases incidental to Europeans in hot Climates, page 297.

and he mentions the great success which he has found from the use of opium in intermittent fevers.

This practice is not absolutely new, though it does not appear that Dr. Lind knew it had been tried before, neither is it known that any person has used it in so many cases.

He observed, that if taken during the intermission, this medicine had not the least effect, either in preventing or mitigating the succeeding fit; when given in the cold fit, it once or twice seemed to remove it, but when given half an hour after the commencement of the heat, the opiate generally gave immediate relief.

“ From fifteen to twenty drops of tinctura thebaica in a draught,
“ with two drachms of syr. meconio, was the dose. This draught
“ shortens and abates the force of the fit, and is found to remove
“ the disease with more certainty than an ounce of bark; it
“ generally gives sensible relief to the head, and occasions a profuse
“ sweat. This sweat is attended with an agreeable softness of the
“ skin, instead of the disagreeable burning sensation which affects
“ the patients when sweating in the hot fit, and it is always much
“ more copious than in those who are not under the influence of
“ opium; and it often produces a soft and refreshing sleep to the
“ patient, who is tortured in the agonies of the fever, from which
“ he awakes bathed in universal sweat, and in a great measure free
“ from all complaints.”

In cases where opium did not abate the symptoms of the fever, it never augmented their violence: even a delirium was not increased by the opiate, though this will not remove it; opium seems also in this disease to be the best preparative for the bark, and generally renders a less quantity requisite. When the patient is costive who is to take the bark immediately after the fit, the dose of tinctura thebaica is to be given in a proper quantity of tinctura sacra, which will cleanse the intestines as well as shorten the fit. Dr.
Lind

Lind says, that this remedy preserves the constitution so entirely from injury, that since he used opium in agues, neither a dropfy nor jaundice has attacked the patients. He also bears testimony of the great safety as well as efficacy of the bark, and that it is by no means chargeable with laying the foundation for future complaints; for though he had annually prescribed, for three years, upwards of one hundred and forty pounds weight of this drug, yet he never observed any bad symptoms which could with propriety be ascribed to its use, except in two instances. The one was a young woman, where the bark was supposed to stop the menses for three months; the other was a person subject to an asthma, wherein it occasioned a distressing degree of suffocation, until by vomiting the bark was thrown up. (Asthmatic habits, it is to be observed, are those wherein the cortex is most apt to disagree.)

After all he concludes, that the bark, when good in its kind, and judiciously administered, is the best and safest remedy for agues, and we may add, for many other diseases.

When the bark fails in removing intermittent fevers, it will generally be found owing to one or more of these three causes; not persevering in its use for a sufficient length of time, administering it in small doses, or giving it in an improper form; for it is to be observed, that the form is of some consequence. Dr. Lind prefers a mixture to bolus or electary, and says he has found that six drachms of powdered bark given in a julep, warmed with some spirituous water, is as effectual as an ounce in the form of an electary, and proves less disagreeable to the stomach. In such subjects as cannot swallow the requisite quantity, or where the stomach really will not bear it, the cortex must be given by clyster; half an ounce of the extract dissolved in four ounces of warm water, with the addition of half an ounce of sweet oil, and six or eight drops of tinctura thebaica, is the formula recommended by Dr. Lind, and this
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to be thrown up every fourth hour or oftener, as occasion shall require.

For children, the quantity of extract and of tinctura thebaica must be proportionally lessened. In such tender subjects, agues have been cured by making them wear a waistcoat with powdered bark quilted between the folds of it: bathing in a femicupium made of decoction of the cortex, or rubbing the spine with a mixture of equal parts of tinctura thebaica and linimentum saponaceum, have been found to remove the disorder.

When agues run out to an extraordinary length, as quartans in particular are sometimes found to do, they are often succeeded by a jaundice or dropsy, and sometimes end in a general wasting of the body. On the other hand, there are observations which shew, that a severe cough from an affected liver, an epilepsy, the hypochondriasis, and the gout, have disappeared after an ague; and long and obstinate quartans have been carried off by an hemorrhoidal flux, or have been known to give way to the small-pox, or some other acute fever.

C H A P. VIII.

Varieties of the different Species of Intermittent Fevers.

INTERMITTENT fevers are almost without exception to be treated according to the method already laid down; yet as accurate histories of the different species are not only pleasing, but also of real use in forming indications of cure, we shall here subjoin such as are most likely to occur in practice.

From what has been already said, the reader will understand the distinctions which mark the three species of ague; namely, the *quotidian*, *tertian*, and *quartan*: of each of these there are several varieties which deserve to be particularly noticed; first of the *quotidian*, there are,

1. *Quotidiana*

1. *Quotidiana simplex*. In the simple quotidian ague, the cold fit comes on in the morning, and returns regularly the next day at the same hour; the shivering and heat are not excessive, and all the other symptoms are rather mild; the spring is the usual season for its appearance, and it most commonly seizes young subjects of a delicate frame.

The simple quotidian is not a common disease, for though we often meet with agues wherein there is a cold and a hot fit once in every twenty-four hours, yet many of these are what the writers term Double Tertians, in which the fit does not return daily at one regular hour; but this day (for example) it shall begin in the evening, and to-morrow it will come on in the morning, and so on alternately; besides, in the double tertian, one fit, generally that which comes on in the evening, is always more severe than the other; whereas, in the true simple quotidian, the fits not only come on nearly at the same hour, but they are also of nearly the same degree of violence.

There are also double quotidians; and therefore another variety is,

2. *Quotidiana duplicata*, where there are two cold and as many hot fits in the course of every twenty-four hours. In these cases the intermissions are very seldom complete, and are properly but remissions; therefore these are to be classed with remittent fevers, except when the apyrexia is really perfect.

3. *Quotidiana hysterica*, often observed in women of an hysterical constitution. The febrile symptoms are very mild, and the urine limpid; the attack is in the evening with yawning and a slight shivering, succeeded by gentle heat, but no remarkable sweat.

4. *Quotidiana cephalalgica*. The ague wherein a headach is the most predominant symptom; this variety is also chiefly observed in women and young girls, and sometimes the fits are double.

Varieties of the *tertian* are,

1. *Tertiana legitima*, the true tertian ague.

The fit in the true quotidian begins about seven in the morning, but in the true tertian generally between nine and eleven; the whole period does not exceed twelve hours. The description and manner of treatment need not here be repeated.

2. *Tertiana spuria, subcontinua seu extensa*, rather belongs to the remittent fever, as the fits run out to such a length that there is hardly any true apyrexia. Sydenham used to give the bark in larger quantities, the nearer the intermittent approached to a continued fever.

3. *Tertiana pleuritica*, accompanied with a severe stitch in the side: this disease prevailed at Montpellier in May 1760, and required repeated bleedings, with cathartics interposed. Dr. Lind also bled in these cases, gave the cortex in very large doses, and blistered on the part.

4. *Tertiana asthmatica*; when the fit is accompanied with great difficulty of breathing. See Morton's 13th and 21st Histories.

5. *Tertiana carotica*; after two or three periods, the patient, when the fit comes on, instead of the shivering and coldness, is seized with insensibility, and drops down apoplectic. In these cases a large blister must be applied; and when the intermission takes place, we are to throw in from one to two ounces of bark, lest a return of the coma carry off the patient. This disease was seen in Dublin 1768, is remarked by Dr. Lind, p. 292. and mentioned by Sydenham in his Epistle to Dr. Brady; observed also by Morton, who gives two histories.—Hist. 25, and 26.

6. *Tertiana cardialgica*. A lady in the first attack was seized with a violent pain in the stomach. Every subsequent fit increased it so, that at length it became intolerable. It neither yielded to blistering,
nor

nor the external application of tinct. thebaica, but gave way to two ounces of the cortex taken during the intermission. (Lind's Essay on Diseases incidental to Europeans in hot Climates, p. 293.—Morton has an observation of a like nature, Hist. 16.)

7. *Tertiana duplex*, as already mentioned, is often taken for a quotidian, and frequently the fits run into one another, so as to render it a remittent fever.

8. *Tertiana duplicata*, where there are two cold and as many hot fits every other day.

9. *Tertiana urticata*; during the fit the body strikes out in blotches, attended with great itchiness, like the stinging of nettles.

10. *Tertiana choleric*; the fits are attended with violent vomiting of bilious matter, and cholic pains; a repetition of antiemetic draughts of salt of wormwood, and lemon-juice, are requisite during the fit. See Morton, Hist. 3, 4, 5, and 7.

11. *Tertiana epileptica*. And,

12. *Tertiana hemiplegica*. There have been some cases observed wherein the fit has come on with general convulsions; others where the patients have lost the power of one side.

13. *Tertiana rheumatica*, seu *arthritica*, accompanied with severe pains in the limbs and joints.

Of the *quartan ague* we may remark the following varieties:

1. *Quartana legitima*. The regular quartan is an autumnal ague; the fits attack in the afternoon; the cold is not so severe as in the true tertian, but of longer continuance, lasting perhaps a couple of hours, but without much sickness or vomiting. The hot fit goes off without much sensible evacuation.

2. *Quartana splenetica*. When the spleen appears to be infarcted and enlarged, supplying, as it may be presumed, a focus which keeps up the disorder.

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3. *Quartana*

3. *Quartana hepatica*; when the liver is affected in like manner. In these we shall sometimes find advantage from antimonials in small quantities, and the flores martialis, combined with the gums, ammoniacum, galbanum, and myrrh.

4. *Quartana metastatica*. When there is an evident translation of the morbid matter, as was observed at Montpelier in a young man whose ague left him whenever his eyes inflamed, and returned again as often as these grew well. This metastasis was so frequently repeated, that there was no doubt remaining of the translation. Morton gives two histories of a like metastasis.

In all these, the fits are supposed to come on according to the true quartan type, leaving an apyrexia of two days. But there are agues which do not return in this regular way, and these have been called *Quartanae Duplices*, *Quartanae Duplicate*, *Quartanae Triplices*, and *Quartanae Triplicate*. There is no necessity, however, for retaining these names, since all agues that do not preserve the regular type had better be termed Erratics.

The *quintana*, *sextana*, &c. returning every fifth, sixth, or seventh day, have been but rarely observed, but whenever they did occur they gave way to the bark, like all the other varieties of intermittent fever.

C H A P. IX.

History of Remittent Fevers; Division into Species, and Methods of Treatment.

REMITTENT Fevers are of a middle nature, between the continued and intermittent. In their course they often resemble continued fevers so nearly as not to be distinguished but by attentive observation, but in their cure they are found to agree with intermittents, in yielding to nothing with so much certainty as to the cortex.

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This genus of fever is endemic in all hot countries, where the soil is marshy, with stagnant waters, which fill the atmosphere with putrid vapours; and often proves destructive to armies, who are obliged to encamp in such situations: hence it is, that the best treatises on remittent fevers are written by physicians who were employed in military hospitals.

Toward the decline of autumn is the season when remittent fevers have been observed to become most frequent in Europe and in North America. They begin their attack pretty much like the tertian intermittents, with yawning, stretching, nausea or bilious vomiting, giddiness, oppression, and a sensation of cold, but not so excessive nor of so long continuance as in the beginning of an ague-fit; then succeed extreme heat, thirst, pain of the head, back, and stomach; restlessness, difficulty of breathing, and generally delirium. The pulse being now hard, though seldom very full; the tongue white and moist, with a yellowness very perceivable in the whites of the eyes, and sometimes over the whole body.

These symptoms usually persist for two or three days; sometimes for four, five, or perhaps six, when at length a sweat breaking out preserves the patient, and renders him tolerably easy for a few hours, but after this remission the fever kindles up again, sometimes with a new accession of the cold fit, and sometimes without it.

This second hot fit after a continuance of a certain number of hours, different in different subjects, spends its force so as to give way to a second remission, and this again is succeeded by a third accession of the heat, and other concomitant symptoms.

Thus things go on until death ensues, unless the disease be either conquered by the powers of Nature, assimilating, or separating, and expelling the morbid matter, or until there is a stop put to its further progress by the remedies furnished by art.

Thus much may serve for the generical description; as to the species into which remittent fevers are to be distinguished, it appears unnecessary to make any more than two:

1. *Inflammatory remittents*, wherein the symptoms of excessive heat, thirst, and pain, all run remarkably high, attended with a dry skin, and a strong, full, and hard pulse. And,

2. *Putrid remittents*, wherein the symptoms of nausea, vomiting, oppression, extreme weakness and dejection, with discolouring of the skin, and weak pulse, shew plainly the putrefactive diathesis.

These distinctions are the more proper, as they lead us to the most successful methods of treatment; whereas distinguishing the species of remittent fevers as we do the intermittents, according to the days when we observe the remission, can be of no practical use.

That yellowness in the skin and whites of the eyes, together with the bilious vomiting, so frequent in the commencement of remittent fevers, has determined some writers to term them Bilious Fevers, from the supposed exuberance of bile: but it appears that this change of colour is owing to a putrefactive resolution of the blood, disuniting the constituent particles, and not to the resorption of bile, as is the case in a jaundice.

With respect to the cure of remittent fevers, we are to regulate our conduct according to the species.

In those remittents, where the inflammatory symptoms predominate, the cure must begin with bleeding, cooling purges, and small doses of antimonials, in order to abate the force of the fever, and either stop its progress or bring on a remission.

These being premised, and the remission being evident, the returns of the paroxysm are to be watched, and the condition of the patient to be carefully examined, in order that we may know how to proceed.

ceed. If the paroxysm of the third revolution of the fever be neither longer, nor attended with more threatening symptoms than those of the second; if the patient preserves his strength, and bears up well, and signs of concoction appear in the urine, then the whole business may be trusted to Nature, and the fever will be found to terminate about the fourth or fifth revolution, for the most part by some natural evacuation; [such as a copious sweat, turbid urine, bilious stools, plentiful spitting, or an expectoration of yellowish matter. But if the paroxysm of the fifth day be still longer, and more severe than any of the preceding; if the symptoms all increase, and the patient becomes feeble and languid; then there must be no longer delay, but that very evening, so soon as the sweats have procured a remission, a drachm or two scruples of the bark must be given, and repeated every second or every third hour, so that five or six drachms may be taken before next day at noon, lest, if this interval escape, there might not be a favourable opportunity afterwards of giving a sufficient quantity of the medicine, as the fits about this period are apt to become double, and the fever to run into the continued form.

Though the cortex does not always put an immediate stop to the progress of the fever, yet it invigorates the body, prevents the more dangerous symptoms, and brings on the crisis much sooner, and with less distress, than in cases where things are left to themselves. For the bark is so far from suppressing any natural discharge, as some have asserted, that the use of it has been evidently followed by a laudable separation in the urine, with warm, profuse, and universal sweats, and plentiful bilious stools; though it effectually restrains all those premature and colliquative sweatings which are common in these and in the intermittent fevers.

It was in this way that Dr. Cleghorn treated the remittent fevers of Minorca during his residence in that island. For some years after he first went there, he was afraid of giving the bark in these fevers,
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the intermissions were so short and so imperfect, having been deterred by what he had learned from the systematic authors and professors, who taught that these fevers ought to be allowed to spend themselves, and be left to the natural crisis. He very frankly confesses that, by this over-caution, he suffered many lives to be lost; but when he got over his fears, and came to give the bark with freedom, before the strength was too far exhausted, he seldom lost a man; and the more experience he had of this valuable medicine, the more he was convinced of its innocence as well as of its efficacy.

Sir John Pringle treated the remittent fevers which occurred during his service in the army on much the same plan; these were mostly of the inflammatory species, and required repeated bleedings, according to the urgency of the symptoms. Immediately after bleeding, a purge was ordered, and next morning he began to give the emetic tartar in small doses. By these evacuations, if the fever was not entirely removed, it certainly became easier, and rendered the exhibition of the cortex, when that was found necessary, safe and efficacious. For in these inflammatory remittents, if the bark be given without sufficiently emptying the vessels, and unloading the intestines to break the force of the fever, the disease is apt to run into the continued inflammatory species.

Dr. Huck, who had the superintendence of the military hospitals in the late American war, conducted himself on similar principles, and found his practice in general crowned with success. In North America, he never had any difficulty in conquering the fever by the cortex; but in the West Indies, unless he gave the bark upon the very first remission, though imperfect, the fever was liable to become continual.

In the hot countries the remittent fevers are generally of the putrid species, and sometimes highly so; the only evacuations that are safe are made by means of solutions of manna, with soluble tartar, sal polychrest,

polychrest, and emetic tartar; for bleeding is found to do harm, and though the fever should begin with symptoms that might authorise the drawing of blood, yet the greatest caution is necessary with respect to the quantity that is taken away: as extreme nausea and vomiting are among the most distinguishing symptoms in putrid remittent fevers, to allay the distress, and also, in some measure, to correct the putrefactive diathesis, and sweeten the colluvies in the stomach or flexure of the duodenum, nothing has been found to answer better than frequently repeated doses of antiemetic mixtures; after this, the bark taken with freedom completes the cure. The remarkable efficacy of this medicine in the cure of putrid remittents, appears from the united testimony of all the gentlemen who were employed on different services during the late war.

C H A P. X.

Varieties of the different Species of the Remittent Fever.

THE paroxysms of remittent fevers are far from having one constant and uniform appearance; it is therefore of consequence to distinguish the varieties.

Sauvages divides remittent fevers according to the times of the remission, into *amphimerine*, *tritæophyæ*, and *tetartophyæ*, just as they happen to agree with the *quotidian*, the *tertian*, or the *quartan* type; but, as hath been already observed, this is not the most useful method of distinction; we shall therefore consider them only as inflammatory, or as putrid.

Varieties of the *inflammatory remittent fever* are, the

1. *Remittens catarrhalis*; the symptoms are the same as in the continued catarrhal fever, formerly described, only with remissions. The cure, the same as there mentioned, with the addition of the cortex, if the disease should not give way to such remedies as are used in the beginning.

2. *Remittens*

2. *Remittens peripneumonica*, epidemic in the year 1757, in Provence; began with a teasing cough, pain in the side, and difficulty of breathing, with bloody spits. In two or three days, a vomiting of viscid bitter stuff succeeded; the remissions were quotidian. When it proved mortal, the remissions were on the 5th or 7th day. The method of cure that succeeded was moderate bleeding, and evacuating upwards and downwards, with decoction of cassia and tamarinds, and a few grains of emetic tartar.

3. *Remittens ardens*, seu *causus*; the burning fever, so called from the excessive degrees of heat and dryness, is accompanied with the most violent thirst, but no vomiting nor purging, except toward the close, when a diarrhoea is apt to come on. The remissions are every other day according to the tertian type; the cure is to be attempted by bleeding, repeated according to the strength; together with saline purges, and small doses of emetic tartar. The *causus* seizes the young and robust, who are much exposed in summer to the heat of the sun.

4. *Remittens biliosa*. The chief difference between this and the foregoing is the vomiting of bilious matter, for the heat is equally excessive, and the thirst as distressing; besides, these bilious fevers are often attended with purging and profuse sweating. This is a frequent disease in camps, and breaks out in the month of August, declines as the winter's cold approaches, and is then accompanied with coughs and rheumatic pains; it requires evacuations in the beginning to break the force of the fever before the cortex can be given with safety.

Of *putrid remittents*, the principal and most destructive is the *yellow fever* of the hot climates, termed variously by different authors. Sauvages calls this *Triteophya Americana*. It is extremely well described in an inaugural dissertation by Dr. James Makittrick, under the title of *Febris Maligna flava Indie Occidentalis*. It sets out with signs of high inflammation; but in a very few days these give way
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to symptoms arising from great putrefaction and dissolution of the blood. It seizes the robust and strong, who are new comers, and whose vessels are full of dense blood. Bleeding, though indicated at first, must be very cautiously practised. Saline purges with manna, to cleanse the bowels, and small doses of emetic tartar, were what the military surgeons used in the beginning, and then immediately had recourse to the cortex, in large and often repeated doses.

2. *Remittens anginosa maligna*; the malignant sore throat, is epidemic at times in the different countries of Europe, very fatal among children, and for the most part accompanied with a scarlet efflorescence on the skin. The cortex is the only known remedy for this disease; gentle cathartics, and small doses of emetic tartar, being first premised. See the malignant scarlet fever, in Chap. XV.

3. *Remittens paludosa*; the marsh fever, so well described by Sir John Pringle, frequent after a hot summer in low swampy soils, abounding with putrid vapours. These fevers do not bear much bleeding, but the cure depends chiefly on the cortex, if the small doses of antimonial should not first remove the disease.

These are the varieties of most note, but there are others which take their name from some very distressing and predominant symptom, as,

4. *Epiala*; wherein, though the sick person is trembling with the inward sensation of extreme cold, the surface of the body feels hot to the bystanders.

5. *Phricodes*; wherein there is not only a continual sensation of cold, but the surface of the body likewise feels cold.

6. *Leipyria*; when the extremities are cold, but the center of the body and inward parts are burning with heat.

7. *Affodes*; when there is such an intolerable oppression and anxiety, that the patient cannot be one moment in the same posture.

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8. *Elodes*,

8. *Elodes*; when perpetual and profuse sweatings accompany the fever.

9. *Syncopalis*, or *cardiaca*; when fainting and an uneasy sensation in the præcordia are distinguishing symptoms.

10. *Carotica*; when the patient lies in a-dozing or sleepy state.

C H A P. XI.

Different Species of eruptive Fevers distinguished.

WE may, with great propriety, say of *eruptive fevers*, that they are efforts of Nature to throw off morbid matter, and thereby restore health, since we refer to this genus all such as are attended with an evident separation and expulsion of somewhat, which, while it continues mixed with the fluids in circulation, creates a number of distressing symptoms, but when thrown off on the surface of the body, these symptoms are found in general either to abate of their violence, or altogether cease.

There are several species of eruptive fevers, distinguished by the different natures and appearances of the eruption; and many varieties of these species, according to the symptoms which either precede or accompany the separation and expulsion of the morbid matter.

1. The *small-pox*; wherein, after a prelude of febrile symptoms, a number of inflammatory pustules strike out, run to a suppuration, and often appear in such abundance as to cover entirely the face, and almost the whole surface of the body.

2. The *measles*; wherein, after a high fever for three or four days, accompanied with a cough, and running at the eyes and nose, the face, and surface of the body in general, are covered with a red eruption, partly consisting of small pimples, that do not suppurate like

like the small-pox, and partly of broad flakes, which at last disappear and dry off in furfuraceous scales.

3. The *scarlet fever*; wherein the eruptions resemble the measles, where these run only into broad flakes, but free from the cough, and other catarrhal symptoms.

4. The *erysipelatoſe fever*; wherein there is a superficial inflammation, often followed by angry pimples or small blisters and cutaneous ulcerations, ſeizing particular parts of the body, moſt commonly the face.

5. The *miliary fever*; wherein the cuticle is raiſed up into innumerable and cloſely ſet minute veſicles, not in general larger than millet-ſeeds; ſometimes white, as being filled only with pellucid lymph; at other times red, containing a coloured ſerum.

6. The *aphthoſe fever*; frequently ſupervening the miliary, though ſometimes met with in its ſimple form, wherein the inſide of the mouth is beſet with whitish ſloughs, and often ulcerations in the fauces, which are found preying on the uvula and tonſils.

7. The *veſicatory fever*; wherein, along with the ſymptoms of a very malignant putrid fever, numbers of blisters, of the ſize of a hazel nut, or larger, filled with very acrid ſerum, are found to ſtrike out in different parts of the body.

8. The *plague*; a peculiar ſpecies of eruptive fever, wherein the ſick are ſometimes relieved from a moſt violent and deſtructive combination of ſymptoms, by the expulſion and ſettling of the morbid matter in the lymphatic glands in different parts, chiefly the inguinal, axillary, and parotid.

We ſhall firſt give the hiſtories of each of theſe eight ſpecies, lay down the moſt approved methods of treatment, and then ſubjoin the different varieties that are moſt worthy of notice.

C H A P. XII.

Of the Small-Pox. History of the Disease, and Method of Treatment.

THE *small-pox*, like most other fevers, begins with a shivering and sensation of excessive cold, great oppression, and nausea, or vomiting; soon after succeed excessive heat, thirst, pain of the head and back, with straitness about the præcordia, great tendency to sleep, or sometimes a degree of delirium, and, in tender subjects, convulsions. The pulse, at this time, if the patients be of the more robust and plethoric habit, is frequent, full, and hard; the eyes red and sparkling; the skin moist and soft.

Things continue much in this state for two, three, or four days, perhaps longer, if some very severe pain attends, but for the most part on the third day, small red specks, like fleabites, appear, first on the face, next to that on the hands and fore-part of the arms, then on the neck and upper-part of the breast. These, when pressed with the finger, may be felt hard in the skin, and by this means may be distinguished from other eruptions, particularly the measles, which, at the very first appearance, can seldom be felt in this manner, as not raising up the cuticle.

If the disease is of the milder and more benign sort, the distressing symptoms of pain, sickness, and oppression, begin to abate from the first appearance of the eruption, and in a day or two altogether cease; but in the mean while the skin continues hot and moist, and the number of eruptions increases hourly in the places where they first appeared, and new ones strike out on the back, sides, belly, thighs, legs and feet, and are sometimes pushed out at the very soles of the feet.

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It is from the degrees of this abatement and cessation of the distressing febrile symptoms that we are to form our judgment of the future event of the disease, rather than from the quantity of the eruption; for, if the suppression, the pain, the restlessness, thirst and sickness should abate but little, or not at all, on the striking out of the small-pox, we may justly pronounce the case to be extremely dangerous, since this plainly proves that the morbid matter is not capable of being properly extricated and thrown off, and consequently that it must remain blended with the fluids, and thus keep up the irritation and spasmodic constriction. Whereas, if the fever should nearly, or totally, subside, after the completion of the eruption, we may expect a favourable termination, even though the number of pustules should be very considerable.

From about the sixth day after the first seizure, the pustules begin to swell, grow hot, and become painful; and round their basis the colour of the skin appears of a florid red; the whole face, and particularly the eyelids, are soon after so puffed up, that the eyes are often closed, and the whole countenance so changed and inflated as to leave scarcely any resemblance of the natural features.

While things are in this state of inflammation, the febrile symptoms of excessive heat, thirst, and restlessness, again kindle up, and continue to increase, until the ninth, tenth, or eleventh day, according as the disease and quantity of the eruption are more or less severe.

Now, the pustules having many of them acquired the size of peas, and being arrived at complete maturation, and filled with yellowish pus, begin to turn of a dark colour, and to dry; first on the face, next on the neck, breast, and trunk of the body, and, last of all, on the hands and feet.

The swelling of the face abates in proportion to the drying up of the pustules; but as the face subsides, the feet and hands puff up, and.

and do not entirely fall until the fourteenth day, by which time the disease will have completely finished its course.

This is the natural progress of the regular and milder degrees of the small-pox; but in cases where the surface of the body is in a manner entirely covered over with the eruption, when this comes to harden into a continued crust, what with the absorption of the purulent matter, what with the offensive colluvies from the intestinal canal, and what with the stoppage of the cutaneous discharges, the blood again appears to become infected with a morbid acrimony, which raises a new fever, that frequently destroys the patient in spite of every thing that can be attempted to obviate the danger.

Thus we see that there are four periods or stages in the small-pox, which regularly succeed each other; first, the period of the primary or eruptive fever, which generally runs from three to five days; secondly, the period of the remission, when the most distressing symptoms abate, and things continue quiet, in consequence of the separation and expulsion of the morbid matter, which usually lasts three days; thirdly, the period of the suppuratory fever, while the pustules are ripening, which, in the milder degrees of small-pox, does not run beyond the tenth or eleventh day; and, lastly, the secondary fever, which follows often upon the drying up of the pustules, and when it does not prove fatal, soon comes to a remission.

So far with respect to description; as to the method of treatment, there can be no invariable method laid down, because there are no cases wherein the different effects of the same morbid causes acting on different constitutions, are more evident than in the small-pox.

Since eruptive fevers in general, and the small-pox in particular, attack like those which are not attended with any eruption, it is plain that there can be no absolute criterion or sign to enable us to say at the beginning of the disease, whether it will turn out to be small-

small-pox, or some other kind of fever. It is true, indeed, that there is a remarkable oppression and straitness about the præcordia, but until the eruption actually appears, we can only guess from the frequency and nearness of the small-pox, that the patient may probably have caught the infection. And therefore, the treatment of the disease in its first stage must always depend on the nature and violence of the febrile symptoms, which vary according to the constitution of the patient, and frequently have a mixture of those symptoms which are peculiar to some species of fever, that happens then to be epidemic. Hence it is necessary to have a regard to the preceding and present state of the weather; for, as long continued cold and dry weather make the fibres strong and elastic, and the blood dense and viscid in such seasons, patients will bear and require bleeding more than they will in a warm, relaxing, and moist state of the atmosphere, and will want more of the diluting, emollient, antiphlogistic drink, diet, and medicines; whereas in the latter state, something more cordial, subastringent, and antiseptic will be requisite.

There are now and then cases where the disease is so very mild, and the degree of fever so little alarming from the very first attack, that medical assistance is neither necessary nor demanded, except perhaps at the close, when it will be proper to give a gentle purge or two to carry off any remains of acrid and offensive matter that might have been collected in the intestinal canal during the course of the disease.

But, on the other hand, it often happens, that the small-pox turns out to be a most dangerous disease, and accompanied with such a variety of symptoms as to demand the utmost skill and discernment. For, in the first place, if the variolous infection attacks a person of strong vessels, filled with rich and dense blood, the fever is apt to run high, so as to affect the brain, the throat, or the lungs, and produce delirium, suffocation, or great difficulty of breathing. In these cases, where the pulse is rapid, full, and hard, the breathing hot, short, and.

and laborious, the heat excessive, the thirst great, the urine high-coloured, and the pain in the head, back, or loins exceedingly acute, we must bleed largely and repeatedly, if the symptoms do not abate on the first evacuation; at the same time ordering antimonials in small doses, with nitre and cooling subacid drinks, and clysters to empty the bowels: for the bleeding in such circumstances does not hinder the proper eruption, but, on the contrary, by restoring in some degree moderation and freedom to the vital motions, gives time and opportunity for that natural separation and expulsion of the morbid matter, which is the only thing that can bring permanent relief.

Where the head appears to be much affected, it will be best to take blood from the feet, as this makes the most sensible derivation from the superior parts of the body; and with a like view, bathing the legs in warm water, and wrapping the feet up in warm poultices, have been found of service in abating the delirium, and relieving the chest; for, in consequence of these warm applications, the number of eruptions on the lower extremities is said to be increased, while that on the face and breast is diminished. But if the disease should seize people of an opposite temperament, who have been exhausted by preceding disorders, or who have weak and relaxed fibres, with a poor and thin state of the fluids, and should steal on in the slow and gradual way, like a nervous fever; if the countenance should be found pale, and the pulse weak and fluttering, the urine crude and thin, no great thirst or heat, continued giddiness, and heaviness of the head, with tremblings, and a perpetual nausea, attended with great weakness and dejection of spirit; in such circumstances we must endeavour to rouse the languid animal motions, by giving warm wine, or strong sack-whey, with some drops of the volatile aromatic spirit in each dose; and on no account attempt to lessen the quantity of blood, nor give any thing that may bring on a number of loose stools; a gentle emetic indeed in this situation will be proper,

proper, as its action may not only promote the eruption, but also, by unloading the stomach, may remove the heavy sickness, and relieve the anxiety or oppression.

There are other cases also where bleeding is equally improper as in that just now described, and these are, when we know the fluids to be in a putrescent state, or that there is a putrid fever united with the variolous matter.

In all cases of small-pox, where the eruption is sufficiently thick and close to check the cutaneous discharges, as the disease advances to its height, the humours which ought to be thrown off by the skin are obliged to take another rout, and are carried off by large discharges of urine, by a number of watery stools, or run from the salivary glands, in a profuse flow of saliva, while at the same time a great deal of watery fluid is lodged in the cellular interstices of the hands and feet, which are now puffed up and swelled as in a dropsy; but in order to relieve all these parts, it is of great importance that the urinary discharge be promoted during this period; for which reason, from the time that the eruption is completed, until the turn of the disease, we should frequently give small doses of sweet spirit of nitre, which will tend to increase the quantity of urine, and of course relieve all the parts that are liable to be oppressed by the load of watery humours retained in the body. If at any time we find these discharges to stop, while the swelling of the hands and feet does not increase sufficiently to shew that they have received the additional load, we may look on things as in a very desperate state, the only hope now left, being to discharge this watery humour by means of blistering, for which purpose the epithema vesicatorium answers better than the emplastrum, and these applications should be laid to the wrists and ankles, to solicit, if possible, the flow of humours to the extremities, and divert the load from the vital organs.

While the pustules are advancing to a state of suppuration, they grow every day more painful, sleep is banished, and all the febrile

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symptoms are exasperated; hence there is a necessity for giving opiates every evening during this period, and these must be adapted to the various circumstances of age, sex, and constitution, and must be administered in small doses, repeated every hour till the effects shall be evident. Great costiveness during this stage is also common, but ought not to be allowed to continue; and therefore the bowels must be kept open by gentle laxatives, given in the drink, or a common emollient clyster should be thrown up at least once a day, until the height of the disease, when the pustules begin to dry, and form a crust on the face.

When this crust is actually formed, we are to give a dose of some mild cathartic sufficient to procure two or three stools, since this may be a means of preventing the secondary fever. At this time also the patient should be shifted, as the absorption from foul clothes might be sufficient of itself to bring on a new train of febrile symptoms. But if, nevertheless, the secondary fever should come on, and run high, with violent headach, great oppression, and difficulty of breathing, then we must immediately direct some ounces of blood to be drawn, in order, if possible, to procure a remission; and the moment this is accomplished, we are to treat the disease like a remittent fever, giving the cortex with as much freedom as the nature of the patient's age, and the particular circumstances of the case shall require.

During the course of the regular small-pox, from the time of the eruption until the pustules begin to dry, medicines (more than have been mentioned) are not absolutely necessary: the diet is to be light, and not heating; the apartments of the sick should be kept cool, and well ventilated; the patients are not to be allowed to lie constantly in bed, but, if the strength will admit of it, must sit up some hours at least every day; and when the disease shall be over, they are to be repeatedly purged, in order to carry off any dregs of the variolous matter.

C H A P.

C H A P. XIII.

Varieties of the Small-Pox.

FROM what has been said of the disease in general, it appears how necessary it is to observe the varieties of the small-pox.

The most useful method of distinguishing is, to consider the disease either as *simple*, or as *complicated* with some other species of fever.

The varieties of the *simple small-pox* are,

1. *Variolæ simplices discretæ*; the regular distinct small-pox. Though the febrile symptoms before the eruption often run high, and though, perhaps, even convulsions may have preceded, (which are never reckoned to portend danger at this period of the disease;) yet, immediately after the striking out of the small-pox, the distressing symptoms either abate greatly, or altogether cease; the pustules advance regularly through the inflammatory period, suppurate kindly, are large and prominent, full of yellow pus, and perhaps, excepting a few places on the face where the eruption is always most plentiful, the pustules do not run together, but stand single, like so many little abscesses; when they dry off they leave no pits, and there is no secondary fever. In these cases there is no medicine required, unless it be an opiate to procure rest during the painful period of the disease, while the suppuration is going on.

2. *Variolæ simplices confluentes*. The regular confluent small-pox only differ from the preceding in respect to the quantity of eruption, which, when plentiful, the pustules must of necessity run together: for, if after the eruption the pulse remains strong and equable, while there is no remarkable failure of strength, no continued sickness, nor sense of oppressive load, we are never to be much alarmed, even though the quantity of it should be large, and the pustules run together: in these cases, the degrees of pain and restlessness during the

advancement to suppuration, must be in proportion to the number of little angry boils, and therefore will require the free use of opiates during the whole of this period, which will run at least to the eleventh day, before the pustules be all of them completely ripened.

3. *Variolæ simplices chrySTALLINÆ*; the watery small-pox, wherein the pustules are filled with a serous fluid instead of pus. The disease termed Varicella, *Variolæ Volaticæ*, or chicken-pock, ought not to be considered as a variety of the small-pox, though some authors, particularly Morton and Sauvages, hold it as such; because the true small-pox will seize those who have had the chicken-pock. However this disease may be noticed here, not that medical assistance is often required; for the degrees of fever, previous to the eruption, is seldom such as to give distress, and the watery pustules generally subside about the seventh day, and dry away without any succeeding oppression or sickness: it is by attending to these circumstances that we can distinguish this disease from the true small-pox, for the appearance of the pustules when they are full out, is often such as might deceive even the experienced practitioner.

In the true small-pox, whenever the pustules, let them be distinct or confluent, are observed to be filled with an acrid serum, instead of a mild yellow pus; we are always to look on it as a bad sign, and may be assured that the juices are not in a sound state; these chrySTALLINE small-pox are therefore always to be suspected, and we must be greatly on our guard with respect to the prognostic that is to be made while the disease is in being, even though there should be no very alarming symptoms present.

We are also to suspect the warty small-pox, or,

4. *Variolæ verrucosæ*; wherein the pustules do not fill with fluid, but remain hard and dry like warts.

The inoculated small-pox is to be referred to one or other of the foregoing varieties, and what medical aid may be necessary during

the progress of the disease is to be regulated according to what is here laid down.

The *complicated small-pox* are those cases wherein there is a manifest addition of symptoms peculiar to the inflammatory, nervous, or putrid fevers, or perhaps to the dysentery, when the season and constitution particularly favour the production of these diseases.

Of these the following varieties have been observed by different writers :

1. *Variolæ complicatæ inflammatoriæ* ; the complicated inflammatory small-pox. In the first stage the heat is excessive, the skin dry, tendons rigid, eyes red, prominent, and sparkling ; there is a remarkable pulsation of the carotids, with great pain in the head and small of the back, and total loss of strength ; after the eruption, (if the patients should hold out so long, for very often they are carried off by the violence of the fever before the seventh or eighth day) though there is some abatement of the violent pains, yet the fever keeps up, with exacerbations every other day, and accessory symptoms of delirium, anxiety, and incessant tossing. Very often the nose will bleed, and petechiæ be seen forced out in the spaces between the pustules, and sometimes an erysipelatose inflammation will occupy the head and face, creating a monstrous inflammation and swelling ; if neither Art nor Nature prevail, as things draw to a period, the pustules turn black and mortify, the patient becomes comatose, lies stupid and senseless, and at length convulsions coming on, life sinks under the immense load of disease.

The methods of relief in these cases must be formed on the plan of treatment laid down for the inflammatory fever.

2. *Variolæ complicatæ chrySTALLINÆ* ; the complicated watery small-pox. In these cases, which are the opposites to those above described, there is such a poorness of the juices, and such a want of firmness in the

the vessels, that the eruption never strikes out completely, nor do the pustules mature kindly, but remain flat and depressed, with a little blackish spot in the middle, containing only a watery fluid. When the eruption is large and confluent, the face never swells, but will appear as if covered with a coat of tallow. The weakness and dejection in these cases are evident from the beginning; the fever is obscure, though the sickness and oppression be very great. Purging often supervenes, and carries off the patient; or, if that does not happen, convulsions close the scene.

Blistering with freedom, and the liberal use of wine, appear to be the things that are chiefly to be depended on; the disease requiring a treatment similar to what is proper for the nervous fever.

3. *Variolæ complicatæ nigrae-sanguiniae-hæmatodes*; the complicated putrid small-pox. When the small-pox supervenes in constitutions wherein the crasis of the blood is destroyed by a putrefactive acrimony, the dissolved cruor not only mixes itself with the serum which fills the pustules, but also raises large blisters, perhaps runs off in the urine, or settles on the skin in the form of vibices or petechiæ. In these deplorable cases, unless by the cortex, and other powerful antiseptics formerly mentioned when treating of the putrid fever, (the signs of which need not here be repeated) the putrefactive diathesis can be corrected in the beginning of the disease, there can be little or no hope of a recovery.

4. *Variolæ complicatæ dysentericæ*, the malignant small-pox, combined with the dysentery, or excessive purging.

Violent purging is a frequent symptom in the small-pox, where there is a putrefactive acrimony, and perhaps then is not to be remedied: it is also to be met with in cases where things are not quite so bad, and relief may be then attempted, by giving the decoctum album for common drink with port wine, if there be great sink-
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ing of the pulse, ordering mixtures at the same time with the pulvis e bolo compositus, either with or without the opium, as the particular exigencies may require.

But as a purging is sometimes critical, which may be known from the pulse rising, and from the patient's own feelings of relief from the sickness and oppression, there must be great caution used with respect to astringents.

If other varieties more than what are here mentioned should occur in practice, and should not be so distinctly marked as to enable us to refer them to either of the three species of inflammatory, nervous, or putrid fever; all that can be done is, to take the indications of cure, as we do in cases of mixed fevers, from those symptoms which are most pressing, and appear to demand most, the antiphlogistic, the cordial, or the antiseptic course.

There are certain complaints which are apt to ensue in consequence of the more severe and complicated varieties of the small-pox, and which require to be particularly mentioned.

The secondary fever, though usually ascribed to the resorption of pus, or to the accumulation of offensive matters in the alimentary canal, ought, perhaps, to be attributed rather to the incomplete separation and expulsion of variolous matter. From an imperfect separation also proceed nausea and want of appetite, hectic heats, inflammation of the eyes; oedematous swellings of the hands and feet; abscesses and untoward ulcers, especially in scrofulous habits; a foolishness, or degree of delirium without fever; cough, and other phthical symptoms. The surest remedy for every one of these complaints is the cortex, which, by its power not only as a strengthener of the solids, but as an antiseptic and corrector of acrimony, is found to be the grand restorative, joined to a proper course of diet, change of air, and the prudent interposition of cathartics. Morton observes, that nothing so effectually prevents the erosion
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from the acrid matter of the pustules, whence those unseemly marks that so often deform the visage, as a plentiful use of the cortex; and therefore, in all cases where it appears that there is any considerable sharpness in the variolous pus, he advises that we should begin immediately after the drying of the pustules to use this sovereign remedy. In young children, who cannot be got to swallow the requisite doses, it may be thrown up in clysters, or they may be bathed in the decoction.

C H A P. XIV.

History of the Measles, and Method of Treatment.—Varieties.

THE *measles*, next to the small-pox, is the species of eruptive fever most commonly met with, and is sometimes found in conjunction with it, as was observed particularly in the Foundling Hospital of Dublin in 1769. A number of the children having been inoculated for the small-pox, in the mean while were seized with the measles, and both species of eruption were perfectly distinct: they, nevertheless, all recovered.

This disease appears to have been bred originally in the same regions where the small-pox took its rise, as the first descriptions of the measles are found in the writings of the Arabian physicians, who also gave the first accounts of the small-pox.

In some instances, the measles come on by degrees, with a frequent and dry cough, and no other distressing complaint; but most commonly the disease begins with a general uneasiness, successive shiverings, heats, severe headach in grown persons, but in children a heaviness, and soreness of the throat; and, what particularly characterises this distemper, an inflammation and considerable heat in the eyes, attended with a defluxion of sharp tears, and great acuteness of sensation, so that they cannot bear the light without pain; and this flow of tears passing into the nose, produces sneezing, and a dripping of the same acrid rheum from the nostrils.

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The heat and other febrile symptoms increase with rapidity; to which are added, a frequent and dry cough, a stuffing, great oppression, and oftentimes retching to vomit, with violent pains in the loins, and sometimes a looseness, under which circumstances the vomiting is less afflicting; at other times, there is a great sweating, the tongue is foul and white, the thirst very great, and in general the fever runs much higher than in the milder sort of regular small-pox.

At length, about the fourth or fifth day, and sometimes about the end of the third, a sudden eruption appears, and in great quantity, especially about the face, which in a few hours is covered with spots, each of which resembles a fleabite; many of them soon joining, form red streaks or suffusions, larger or smaller, which inflame the skin, and produce a very sensible swelling of the face, whence the eyes are sometimes closed as in the small-pox. Each small spot is raised a little above the surface, especially in the face, where they are manifest to the touch. On the limbs and trunk of the body this elevation or rising is scarcely perceivable by any other circumstance than the roughness of the skin.

The eruption having first appeared on the face, is afterwards extended to the breast, the back, the arms, the thighs, and legs; it generally spreads very plentifully over the breast and back, and sometimes red suffusions are found on the breast before any eruption has appeared on the face.

Whenever this distemper appears in its mildest character, almost every symptom abates after the eruption, as happens in the regular small-pox. Though in general the change for the better is not so thoroughly perceivable; for though the violent heat, pain in the loins, and vomiting, abate, yet the cough and headach continue, with a considerable degree of fever.

On the third or fourth day from the first appearance of the eruption, the redness diminishes, the spots or very small pustules dry up

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and fall off in little scabs; the cuticle peels off, and is replaced by a new one. On the ninth day, when the progress of the disease has been speedy, and on the eleventh, when it has been slow, no traces of the redness are to be found, and the skin assumes its usual appearance. Nevertheless, the patient is not to be looked on as perfectly safe; for, except there have been, either during the course of the disease or immediately after it, some very considerable evacuations, either by the intestines, by the skin, by the kidneys, or by vomiting, the sick person will not recover strength, but the cough will continue, the fever will return with new violence, and bring on great distress and danger.

The proper method of conducting the measles is much the same with that of the small-pox. If the fever be high, the pulse hard, the load and oppression heavy, and all the symptoms violent, the patient must be bled once, or perhaps twice; small doses of emetic tartar are to be given every six or eight hours, the patient is to drink plentifully of light ptisan, and thin gruel, acidulated; and if the belly be bound, a clyster must be thrown up at least once a day: the legs should be bathed, if the head and chest be much affected, and the blood in these cases ought to be taken from the feet, preferably to the arm. Steams of warm water received into the lungs are serviceable in relieving the cough and soreness of the throat. During the progress of the disease there is little or nothing to be done in the way of medicine, except some softening linctus or oily mixture to ease the cough; all that is necessary is, to watch and attend to the ways that Nature seems to point out for a crisis, whether by looseness or by sweat; and so soon as the efflorescence shall grow pale, and the eruption begin to die away, we are to give a mild purge, which must be repeated at the interval of two or three days, and then the patient may be allowed more liberty in respect to diet.

But if, at the turn of the disease, the fever assumes new vigour, and there appears great danger of suffocation, we must bleed according
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to the strength, and apply blisters, with a view of preventing the load from being thrown on the lungs, where, if an inflammation should fix itself, the patient will have very little chance of escaping; for, if even the present danger should be got over, and death should not immediately take place, yet, if an abscess should follow, a hectic fever will arise, and in the course of a few months destroy life.

The varieties of the measles are to be distinguished as we do those of the small-pox, according as the disease shall happen to be regular and *simple*, or anomalous and *complicated* with some other species of fever.

1. *Morbilli regulares*; the simple regular measles, so well described by Sydenham as prevailing in the year 1670, whom we have chiefly copied above.

2. *Morbilli anomali*; the irregular and complicated measles. The anomalous measles that prevailed in 1674, as described by Sydenham, were complicated with many symptoms of the true inflammatory fever. But sometimes the measles will supervene a nervous fever, and sometimes be combined with one that is putrid, and then must be treated accordingly.

3. *Morbilli variolosi*; the measles resembling small-pox. In these cases the eruption is prominent, the face swells greatly, and many pustules actually suppurate like those in the small-pox. This is said to be a disease frequent in Paris. The cough and other catarrhal symptoms are the things which distinguish this from the small-pox.

C H A P. XV.

History of the Scarlet Fever, and Method of Treatment.—Varieties.

THE *scarlet fever* begins with a chillness and shivering, succeeded by heat and thirst, but without great sickness, or that incessant cough which attends the measles; afterwards the whole skin is covered with small red spots, which are more numerous, larger, and redder, but not so uniform as those which constitute the eruption in the disease just now mentioned; these continue two or three days, and after they disappear, and the cuticle peels off, there remains a kind of branny scales, dispersed over the body, which sometimes fall off and come again twice or thrice successively.

While things are in this moderate state, there is little or nothing required from art; for, as it would be improper to lower the fever by bleeding, or other evacuations, so, on the other hand, there is no occasion to raise it by stimulating medicines, the whole is therefore to be chiefly committed to Nature, which, with the assistance of diluent drinks, thin gruels, and the kindly relaxing warmth of the bed, will separate and throw off the morbid matter. At the close of the disease, indeed, purging will be necessary, and ought to be repeated two or three times before the patient be allowed to return to the usual course of life.

But, beside this mild scarlet fever, which is attended with so little danger, there has of late years been observed a malignant scarlet fever, that generally proves fatal. In this disease, which is a highly putrid fever, accompanied with inflammation, the morbid matter is found to fall particularly heavy on the glands about the fauces, there producing a gangrenous ulceration; it infallibly proves mortal if the case at first happens to be mistaken for a simple inflammation, and, in consequence, is treated with repeated bleedings, purging, and cooling.

ing medicines; hence the necessity of distinguishing the varieties of the scarlet fever.

1. *Scarlatina benigna*; as above described.

2. *Scarlatina urticata*, feu *febris efflorescens*; wherein the red eruption is intermixed with itchy blotches like the stinging of nettles. The fever here is usually not more severe nor distressing than in the *scarlatina benigna*, and requires little or no interposition.

If the fever should happen to run unusually high in either case, it must be taken down by bleeding; and if it should particularly affect the head, and bring on a coma or convulsions, (as sometimes happens in young subjects) blisters must be applied, with warm bathing of the lower extremities.

3. *Scarlatina maligna*; the malignant scarlet fever begins its attack with chillness, languor, sickness, and vast oppression; then succeed excessive heat, nausea and vomiting, with a soreness in the throat; the pulse is small and depressed, but extremely quick; the breathing frequent and laborious; the skin exceedingly hot, but not perfectly dry; the tongue moist, and, especially toward the root, covered with a soft whitish mucus like cream: if the fauces be inspected, the tonsils will be found inflamed and ulcerated, though not greatly swelled. On the third day the efflorescence appears, but brings no relief; on the contrary, the oppression, difficulty of breathing, and nausea, increase oftentimes with a purging; and the patient, who by this time begins to grow delirious, is either constantly tossing in the bed, or lies in a comatose state: the strength, which hitherto has kept up more than might be expected, now entirely fails, the breathing becomes more laborious, and swallowing more difficult; and before the sixth day, life ends by a suffocation; in ten or twelve hours after death the corpse swells monstrously, and the dissolved cruor works out from the mouth and nostrils.

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This is one of the most fatal varieties of fever, the mixture of putrefaction and inflammation requiring such a contrariety of remedies, that little can be done for the patient's relief: bleeding and blistering, though they may procure some hours of ease from the oppression and difficulty of breathing, do no permanent service, and the former cannot be repeated; antimonials, even in the smallest doses, are apt to bring on violent purging; and the progress of the disease is too rapid to expect much from the cortex, snakeroot, or any other antiseptic. These are the means however which are proposed, and when the disease is in a milder degree, will probably rescue the patient.

It is observable, that in those seasons when the malignant scarlet fever appears, there are few other fevers that have not some mixture of the anginose symptoms. Dr. Huxham in his treatise on the malignant sore throat (to which we refer) has given a very particular detail, and lays down the method of treatment which he found most successful.—(See hereafter the article on the aphthose fever.)

C H A P. XVI.

History of the Erysipelatose Fever, and Method of Treatment. *Varieties.*

THE *erysipelatose fever*, so called from the superficial inflammation that attends it, is generally preceded by cold and shivering, and then the heat, thirst, and other common symptoms of a fever come on; the face, if that be the seat of the inflammation, swells of a sudden with great pain, and shining redness; abundance of small pimples appear, which often rise up into little blisters, and spread considerably over the whole head, the eyelids in the meanwhile being closed up by the puffy swelling. The pain from the inflammation keeps up the fever, until both are taken off by proper remedies.

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As in these cases there is evidently a sharp humour thrown off from the blood, and deposited in the inflamed vessels of the skin, from whence it ought to pass off by exudation, there is great caution required not to sink the fever too low by immoderate evacuations, nor prevent the discharge of the morbid matter by the imprudent application of cold or astringent substances.

The pulse and the febrile symptoms ought to guide us with respect to bleeding and purging; the patient should be kept in a perspiring way, and lenient or softening epithems and fomentations ought to be applied to the inflamed part. If the swelling should suddenly sink, and the acrid humour appear to strike in, oppression or anxiety come on, and the pulse grow weak, then we must blister, give wine with freedom, and order the *confectio cardiaca*, or volatile alkaline salts and spirits, according to the exigency of the case.

While the erysipelas is preceded and attended with only the common febrile symptoms, it is to be termed *Febris Erysipelatosa Benigna*; but when combined with unusual and distressing complaints, such as total loss of strength, great sickness, oppression, and violent pains in other places than where the inflammation appears, then it will require to be named accordingly, and we may term this variety *Erysipelatosa Maligna, seu Pestilens*.

A fever of this sort raged in France in the year 1130, and destroyed multitudes; in some the inflammation seized the hands, in others the feet and legs, and in others the face. So late as 1716 an erysipelatoſe fever of the malignant sort prevailed at Thoulouse. These are nearly akin to the plague, and very often, like it, end in swellings of the parotid and other lymphatic glands.

C H A P. XVII.

Of the Miliary Fever. History of the Disease, and Method of Treatment.—Varieties.—Of the Aphthose Fever.

THE first accounts we have of the *miliary fever*, are of one that prevailed at Leipzig in the year 1650. Since that time it has been a frequent disease in most parts of Germany, Savoy, Switzerland, and Lombardy, as well as in these islands, though it is said by Sauvages not to be common in France.

There are two kinds of miliary eruption, the white and the red, termed by the writers *Purpura Alba*, and *Purpura Rubra*, according as the minute pustules appear to be filled with pellucid lymph, or with coloured serum; the two are often intermixed, but in both of them the fluid contained has a disagreeable fourish smell, and is said to be very acrid to the taste.

Some writers have contended for it, that these miliary eruptions are often accidental, and do not spring from a specific acrimony, such as is acknowledged in the small-pox, and other eruptive fevers; however, all the most judicious and experienced practitioners among the English, and many among the foreigners, are clearly of another opinion, and hold the miliary fever to be a distinct species, and that it is not to be confounded with the petechial or spotted fevers, which are only varieties of the putrid fever.

The morbid matter here, as well as in the small-pox and measles, is often found complicated with the inflammatory, nervous, or putrid fever; and hence the varieties of miliary fever.

When pure, and unmixed with the distinguishing symptoms of either of these three species, the miliary fever is to be termed,

1. *Miliaris Simplex*, seu *Benigna*; the simple miliary fever. The febrile symptoms previous to the eruption, are not very high nor distressing;

distressing; no great pain, thirst, or sickness; the pulse rather depressed and hard: they increase however gradually till the third or fourth day, when the eruption strikes out, chiefly on the neck, back, and breast, being preceded by a profuse sweat, of a sourish smell, and a particular tingling sensation in the skin, especially in the fingers, and an itching in those places where the miliary pustules are most plentiful. In about thirty hours the eruption is full out, and replete with serum, with a slight inflammation round the basis of the little vesicles, occasioning a fulness and tension of the skin. The febrile symptoms now subside, the patient continues to sweat plentifully, and makes higher-coloured urine, the pulse gradually becomes full, soft, and equable, and by the end of the week the eruption dries up, and the cuticle falls off in scales.

The method of treatment consists in keeping the febrile symptoms within proper bounds, if they should happen to run too high and create great distress and oppression; therefore bleeding, in the beginning, before the eruption appears, will often be necessary, and must be proportioned to the patient's age, sex, and degrees of strength. After bleeding, a saline julep, with a small proportion of emetic tartar, or antimonial wine, will be very proper to moderate the fever, and facilitate the expulsion of the morbid matter; and this julep will be of further use, for if the stomach should happen to be loaded with saburra of any kind, it will not fail to excite vomiting, and thus take off from the sickness and oppression. If, on the other hand, the fever should appear to be rather languid, and to require somewhat of the cordial nature, wine-whey may be allowed for drink, with juleps that have a due proportion of the *confectio cardiaca*, or of the volatile alkaline spirits. But these heating things must be given with great caution and moderation, neither must the patient be kept too warm, nor lie with more bed-clothes than in the time of perfect health.

If great oppression should be observed, or any considerable degree of delirium and coma should shew the head to be much engaged,

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then a blister must be applied; for there is no species of fever wherein blisters do more service than in the miliary.

The *complicated miliary fevers* may be always known and distinguished from the simple and benign, by the symptoms not giving way on the appearance of the eruption, but, on the contrary, becoming more numerous and distressing.

The complicated miliary fevers are mostly epidemic; that described by Sydenham in his *Schedula Monitoria*, as appearing in spring 1685, may be termed,

2. *Miliaris catarrhalis*; it began with intervals of heat and cold, pain of the head and limbs, cough, foreness of the neck and throat, the pulse all this while not much unlike that of a healthy person, but the blood that was drawn had the inflammatory crust. It is not said on what day of the fever the miliary eruption appeared first; and Sydenham was of opinion, that though sometimes it might be considered as spontaneous, yet frequently it ought to be ascribed to the warmth of the bed and cordials.

His method was first to bleed; but this was not repeated unless the cough and difficulty of breathing increased so as to require it, for he observed that this fever did not well bear repeated bleeding. But blistering and purging agreed perfectly well, and accordingly, after some ounces of blood had been taken away, he blistered between the shoulders, and the morning following gave a purging potion, which was repeated every other day for three times, an opiate being taken at bed-time after the operation. He carefully avoided sudorifics, and did not suffer the patients to lie warm, nor to remain constantly in bed. A fever of this kind was epidemic in Britanny in the year 1757.

3. *Miliaris inflammatoria*; in this the inflammatory febrile symptoms go on increasing after the eruption, the pulse continues quick and hard, the urine pale and watery, and the skin becomes exceedingly hot, dry, and rough, the tongue white and dry, the face puffed

up, and the head tormented with a severe internal pain, with delirium, incessant tossing, and inability to sleep.

It has been observed, that the more abundant the eruption, and the sooner it appears, so much the more dangerous the situation of the patient.

4. *Miliaris serosa*. As the preceding is complicated with an inflammatory fever, and seizes the robust and strong, whose vessels are full of dense blood, so this is complicated with a slow or nervous fever, and seizes those of a delicate habit with thin and sharp juices.

In this the febrile symptoms are obscure, and there is all that irregular variety of complaints and appearances which distinguish slow fevers, particularly the weak, quick, and unequal pulse; urine sometimes turbid, and sometimes clear; trembling of the voice; starting of the tendons; confusion of the head; clammy sweats, with a disagreeable smell; the eruption never coming out, but seeming to lurk in the skin, without any sign of inflammation, or remarkable degree of heat.

In these cases the fever runs at least three weeks; and it has been observed, that the persons who have once had it, are very apt to be seized again, particularly women during their lyings-in. The method of treatment consists chiefly in the liberal use of wine, and blistering.

5. A fifth variety may be termed *Miliaris Putrida*, seu *Petechialis*; when the miliary eruption is complicated with a putrid fever, and sometimes intermixed with petechiæ. This disease is often seen in places where the infection of a putrid fever is apt to be communicated by people coming from hospitals, prisons, transport-ships, and such confined places. The signs are to be collected from the descriptions of putrid fevers already given, as also the method of treatment. Blistering in these cases cannot be expected to do any

material service; if any thing can be done, it must be by the cortex and wine.

Miliary fevers in general are often accompanied with a purging, which must be cautiously managed; for, if improperly checked by astringents, the febrile symptoms will certainly be exasperated. In these circumstances, the strength must be supported by vinose cordials, and ipecacuanha given in very small doses at proper intervals.

It is observable, that people of robust habits and full of blood, those who live high, or have juices contaminated with any sort of acrimony, are more apt to be carried off by the miliary fever than those of lax fibres, with watery fluids, and who use the less nourishing kinds of food.

The prognosis in these fevers must be formed on the same principles as in every other species of eruptive fever. When we see the minute vesicles rise high, and fill well, while at the same time we observe the anxiety or oppression to abate, the head grow more clear, and free from pain, and the pulse become soft and equable, we may safely conclude that things will terminate happily. But if, on the contrary, the sickness and oppression should increase, the pulse continue weak and hard, furious delirium, incessant tossing, or convulsions come on, with pale urine, clammy cold sweats, and sinking of the miliary pustules, we may look on the case as almost desperate, though we must nevertheless endeavour by blistering, and the free use of wine and other cordials, to try, if possible, to procure the expulsion of the morbid matter, and determine it to the surface of the body.

The miliary fever peculiar to lying-in women will be treated of when we come to the third class of diseases.

FEBRIS APHTHOSA.—In the course of many miliary fevers, it is frequent to see *aphthæ* in the mouth, and ulcerations in
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the fauces, preying on the tonsils and uvula. Though there are also cases wherein aphthæ supervene without miliary eruptions, and thus give name to the fever: this, however, is mostly seen in very young infants, therefore will be treated of among the diseases peculiar to that state.

In adult subjects the appearance of aphthæ and ulcers in the throat will require the use of detergent and softening gargles made of decoction of figs, with the addition of honey of roses, a little vinegar, and some tincture of myrrh. Mr. Penrose, who writes expressly upon this subject, says, he always gives the vitrum antimonii ceratum, and finds it succeed in these putrid sore throats, which are easily distinguished by the appearance of the ulcerations, with white sloughs, from the malignant and gangrenous sore throat, that yields to nothing but the cortex, and wherein the edges of the ulcers are red and angry, with the black sloughs in the middle, and a shining redness all over the fauces.

A purging generally carries off the patient when the aphthous fever proves mortal.

C H A P. XVIII.

History of the vesicatory Fever, and of the Plague, with the Methods of Treatment.

FORTUNATELY for the inhabitants of the northern parts of Europe, they are seldom visited by the two remaining species of eruptive fever. The fever distinguished by the eruption of *Blisters* was epidemic at Prague in the year 1756, and in one of the Cantons of Switzerland in 1752, both of them very infectious, and fatal in their termination.

In the county of Wicklow, about twenty miles from Dublin, a disease of this kind (as the author has been informed) appeared in the year 1766, but attacked only children, many of whom were
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carried off, until the cortex was thought of as a remedy, and found equally efficacious as in the malignant fore throat.

In the fever which raged in Swisserland, the blisters appeared in the mouth and fauces, as well as on the surface of the body; in many, the neck inflamed, with the parotid glands, and sometimes an abscess followed, which proved salutary if speedily opened, and it happened to discharge itself freely; and it was observed, that when the acrid serum was entirely thrown out on the surface of the skin, and the fauces were left free, that then there was no danger.

Abscesses in the inguinal or axillary glands, likewise saved life, when they chanced to be formed.

In Swisserland the physicians began the cure with one or two large bleedings, then blistered the head, laid cataplasms on the neck, and endeavoured to raise sweats by sudorific medicines: in Bohemia, the only medicine that did service was the acetum bezoardicum, and this is said to have cured all who took it, while those who trusted to other things died.

Of the Plague.

The word *Plague*, if taken in its extended sense, may be applied to every kind of epidemic disease that happens to be unusually fatal; but this is not what we are to understand by it at present; for, by the plague is here only intended a particular species of eruptive fever, wherein the salutary termination is by an inflammatory swelling of the parotid, axillary, or inguinal glands.

This appears to be nearly allied to the vesicatory fever, and is highly infectious; in many parts of Turkey, the plague breaks out every six or seven years, but in these northern parts of Europe it makes its appearance but seldom.

The plague raged in the south of France in 1720; but the British Islands have escaped a visit for more than a hundred years.

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The plague of London in 1665, according to Morton's account, swept off 40,000 people. Sydenham relates, that when at its greatest height, about the autumnal equinox, it destroyed near 8000 in one week, though at least two-thirds of the inhabitants had retired into the country to avoid the infection.

If it were possible to prevent the general panic, and if people could be prevailed on to attend the sick in the plague with the same unconcern that they do in every other species of fever, there can be no doubt but the mortality would be greatly reduced, and perhaps be found not more than what follows from many diseases of which the world does not entertain such frightful ideas: for, let us only suppose, that in some of those seasons, when the mildest and least dangerous of all epidemics, the *Catarrhal Fever*, happens to prevail, an universal terror should take place, and every body become impressed with the notion, that so sure as they were attacked, so surely they must die; and if, instead of giving the necessary attendance, not only physicians, but even the nearest relations would not venture to visit those seized with the distemper, and that these unhappy people should be forcibly dragged from their own habitations, and shut up in loathsome hospitals; what must be the consequence? Why, thousands would undoubtedly perish, partly through their own apprehensions, and partly from the want of common sustenance, as well as medical aid.

How much more terrible then must be the case, when a disease sufficiently dangerous in its own nature is exasperated by the prodigious terror that is annexed to the name of it, and from the methods and regulations that are usually practised and enforced, with a view to prevent the spreading of the infection.

People in power should be very cautious about alarming the public, if at any time a disease should happen to break out that may entitle it

it to the appellation of Plague; and physicians of eminence ought, by their writings, and every other method, to prevent, if possible, a general panic from taking place.

The pestilential fever of 1665, as described by Sydenham, began with chillness, and a shivering like the fit of an intermittent; soon after succeeded violent vomiting, painful oppression at the breast, and a burning fever, accompanied with its common symptoms, which went on increasing, either till the disease proved mortal, or the kindly eruption of a bubo or parotis discharged the morbid matter, and saved the patient.

That which raged at Marfeilles and places adjacent in 1720, is described with more accuracy by the physicians sent there by order of the French government, but appears to have been the same species with the plague of London. On the first seizure, people seemed as if they were intoxicated with drink, entirely lost the power of their limbs, and became so dejected that they gave themselves over from the very first attack. Along with the bilious vomitings and purgings, which generally came on the second day, quantities of small worms like ascarides were thrown off. The more plentiful these evacuations were, the more salutary; for those who vomited and purged but little, sunk down oppressed with the disease, and died before the fourth day, covered over with livid blotches and petechiæ; those who had the largest evacuations, had also the most plentiful eruption of buboes and parotid abscesses. When these appeared, the patients rose, walked about, and became remarkably hungry, the heat and thirst subsided, but the face and eyes continued pale and languid, the pulse hard and frequent. On the sixth, seventh, or eighth day, if the suppuration stopt, and the tumours went back, then came on oppression, difficulty of breathing, furious delirium, and convulsions, which ended in death.

Sydenham proposes large and repeated bleedings, on a presumption of the disease's being of the highly inflammatory nature, and relates

relates some instances wherein this practice seemed to have averted the danger; in France they also bled largely in the very beginning of the attack, and repeated it according to the strength; but the chief service that appears to have been done was, by encouraging the vomiting with emetics of ipecacoanha, and the purging, by giving great plenty of sheathing and diluent drinks.

Acrid or caustic applications to the buboes, and opening them by incision, did not answer, as these swellings did best when left entirely to Nature, or treated only with emollients: no person, seized in the violent way, escaped, but in consequence of the morbid matter's settling itself on the parotid, axillary or inguinal glands, and ending in a complete suppuration. But in great numbers of people, tumors appeared without any previous febrile symptoms, and in a few cases went off by resolution, in others they continued in a scirrhus state, but it was best when the swellings came to a suppuration. Several thousands at Marseilles were affected in this manner, went about the city as if they ailed nothing, and only dressed their buboes with common applications.

When carbuncles or boils, with mortified floughs, appeared in different parts of the body, either alone, or accompanied with the glandular swellings, the patients scarcely ever escaped.

C H A P. XIX.

Hectic Fevers, their Description; Division into Species; and general Method of Treatment.

THE *hectic fever*, on account of its slow progress and long continuance, is placed by Morton in opposition to all the other genera; and not improperly, for there is not only a remarkable difference in the course of the disease, but there is also a material circumstance wherein the hectic differs from a continued, intermittent, remittent, and especially from an eruptive fever: in all these

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the morbid matter is either capable of being subdued or assimilated, or of being separated and thrown off, by the mere efforts of Nature, in consequence of which, a recovery often ensues; but in the hectic fever, we are not to expect any such favourable termination, by the mere force of the natural powers, for in this genus, though there are periodical and plentiful discharges by different outlets, yet none of them appear to be critical; so that unless we can either correct the morbid matter which irritates the vascular system, or cut off the source and prevent its being repeatedly absorbed, the fever will continue, with daily exacerbations, ending in profuse sweats, until the flesh shall be totally wasted, and the strength entirely exhausted.

It was formerly mentioned, that the nervous system appears to be but little disordered in hectic fevers, and that the disease seemingly consists in mere agitation of the blood, and irritation of the heart and vascular system; the acrimony, which irritates and creates this intenseness of motion, appears, in some cases, from the fever's being constant, to be intimately mixed with the general mass; in others, where there are remissions, or complete intermissions, it seems to be taken up, occasionally, by absorption from different cavities and receptacles, where it lies in the intervals of the paroxysm. Hence it is, that some authors, particularly Dr. Cullen, do not consider the hectic fever as an original disease, but look on it as symptomatical or secondary.

Since little or nothing salutary is to be expected from the mere efforts of Nature, the cure of hectic fevers must depend on artificial management; and as they run out to such a length, is to be attempted more in the dietetic than the pharmaceutic way; courses of goat's whey, asses' milk, and fresh butter-milk, with the Seltzer, Bristol, and Mallow waters, are those which are usually prescribed in hectic cases; oftentimes the cortex is given to advantage, and is found to moderate the sweats, and prevent the violent paroxysms of the fever; but

but nothing contributes more to the recovery of health than a clear country air, cheerful company, and the exercise of riding, or, which is still better, that of sailing.

This last, which was a favourite practice of the ancient methodists, (as may be seen in Cælius Aurelianus) has of late years been revived, and often with happy effects; and no doubt, if begun in proper time, before the disease has advanced too far, taking a voyage to sea would be found to prolong the lives of numbers, who are threatened with, or actually labour under a hectic fever.

This is the general scheme of management, but there will sometimes be a necessity for other means, according to the various exigencies of the case, and particular species of the disease.

There are two species of hectic fever, the *phthisis* and the *tabes*.

Some writers make no difference, but use the terms Phthisis and Tabes as synonymous, to express what we understand in common language by the words Consumption and Decay; but it is better to make a distinction, and under the name of Phthisis consider that hectic fever which is accompanied with a cough, and other pulmonic complaints; and under that of Tabes, all the other varieties which are not so attended.

C H A P. XX.

Of the Phthisis; Description and different Varieties, with the Methods of Treatment.

THE *phthisis*, in general, may be known by an obstinate cough, which is most distressing during the night season, sometimes dry, but oftener moist, and attended with an inclination to vomit, oppression of the chest, and difficulty of breathing when the patient walks or stirs briskly; by an habitual fever, increasing always after eating, with a flushing and circumscribed redness of the cheeks, while the rest of the face is pale, thin, and looks as if it were not

clean washed; the pulse is always frequent, but at night becomes hard, and exceedingly quick, whence great heat of a peculiar kind, and dryness of the skin, particularly in the palms of the hands and soles of the feet, with thirst and inability to sleep; toward morning a sweat breaks out, and procures a remission of the febrile symptoms; at length a looseness supervenes, the spitting lessens, and the mucous or purulent matters appear to be carried downwards, the flesh entirely wastes away, the eyes sink in their sockets, the legs swell, the nails curve inwards, the hair falls off, and death steals on without being perceived by the exhausted patient, who continues sensible to the last hour, and sometimes even then entertains the false hope of prolonging a miserable life.

The phthisis is so frequent in most parts of the British Islands that it may be held as endemic; it is also very often hereditary, the seeds of the disease or morbid disposition of body being transmitted from parents to their offspring.

The signs which shew this disposition are, a weak and shrill voice, apt to become hoarse on very slight occasions, remarkable proneness to a cough, and hawking up of phlegm in the mornings; a narrow chest and high-raised shoulder-blades; a long neck, and white delicate skin, through which the blue veins appear distinctly; a circumscribed florid redness in the cheeks; frequent bleeding from the nose; a pulse easily flurried, and breathing easily disturbed: people so circumstanced, as to shew all or most of these signs, if very particular attention be not had to the preservation of their health, will fall into a pulmonary consumption, some time between their sixteenth and thirtieth year; but if they can, by temperance and care, and by living in a pure atmosphere, distant from the smoke of large towns, get beyond their thirty-sixth year, they may probably pass the remainder of life with tolerable security as to a phthisis.

The phthisis is to be considered either as primary or as secondary, coming on in consequence of some preceding disease.

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The varieties of the primary phthisis are,

1. *Phthisis sicca*, wherein the cough, though exceedingly distressing, is not followed by any expectoration either of coloured mucus or purulent matter; what the patient spits up, until near the close, is only a white frothy phlegm, and that but in small quantities. Dissections shew, that in these cases the mucous and lymphatic glands, which are dispersed in great numbers throughout the whole substance of the lungs, are enlarged and hardened, either forming earthy concretions, or running into clusters which do not suppurate kindly, but remain in a scirrhus state, livid or dark coloured, and when cut into, a thick and purulent mucus, and coagulated blood issue forth. The way to distinguish this from a common cough, or from a dyspnœa, is, by attending to the wasting night-sweats and febrile symptoms already described.

This dry phthisis comes on by such slow and imperceptible degrees, and the glands are stuffed up so gradually, that it is seldom completely cured, because the means can scarcely be applied sufficiently early to obviate the danger.

In the beginning of the disease, before the scirrhus tubercles are actually formed, some patients may find advantage from courses of goat's whey, with deobstruent medicines, such as the gum ammoniacum, combined with soap and the flores martialis; others will receive benefit from Seltzer water, or from the sulphureous springs, such as Harrowgate, Moffat, Lucan, or Swadlinbar; and if along with these courses they use the exercise of riding, and all the while have a strict regard to temperance, there will be a probability of preventing the thickening and stagnation of lymph in the bronchial glands; but as these remedies are scarcely ever applied so soon as to prevent the formation of the disease, we are obliged to have recourse to them afterwards to prolong life, or palliate the complaints.

Setons or issues in this sort of phthisis will be found of use, as they tend to obviate the ill effects of any degrees of plethora that may occasionally

occasionally happen to take place in the constitution; and for the same reason bleeding will often be required to free the breathing, and procure relief from stitches that are apt to torment the patients.

2. *Phthisis mucosa*, seu *catarrhalis*; wherein the cough is accompanied with a remarkable expectoration, at first without smell, and of uncoloured viscid mucus; but as the disease advances, the spits become fetid, yellowish, grey, or of a greenish cast, have sometimes a sweetish taste, and sometimes that of common salt.

The catarrhal phthisis appears to proceed from a perverted secretion, too much lymph and mucus being thrown on the bronchial glands, which in time come to be so softened and melted down, that the entire substance of the lungs, when these are inspected after the patient's death, has both the look and the feel of soft dough, without much appearance of organic texture; hence the cure must consist in restoring order to the secretions in general, and in strengthening the whole corporeal frame.

For these purposes, nothing answers so well as the cortex, combined with strengthening gums or balsams, aided by the acid elixir of vitriol, chalybeate waters, and the other requisites of pure air, moderate exercise, and cheerful company.

These cases, if taken in time, may be completely cured, and even when the disease has made considerable advances, and has absolutely formed itself, life may be prolonged for several years by pursuing the plan above-mentioned.

Gentle emetics are frequently required, and remarkably useful, not only to shake off the load of viscid mucus and promote freedom of expectoration, but also, as a kind of exercise to strengthen the lungs; for the same reasons, sailing will be found to contribute greatly to the cure, or at least mitigation of the disease.

3. *Phthisis hamoptoica*; it is common in all the varieties of phthisis, to see the spits now and then streaked with blood; but there are
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some cases wherein hæmorrhages from the pulmonary vessels are so large and so frequent, as to give a distinguishing character to the disease.

These frequent spittings of blood imply great weakness of the pulmonary vessels, and great acrimony of the juices. The cortex therefore, and the Bristol or Mallow waters, are the things to be chiefly depended on, with occasional bleedings, and opiates interposed, according as the returns of the hæmoptoe may demand.

There is no variety of the phthisis that requires the living in a pure and settled atmosphere so much as this, nor any wherein temperance of every kind is to be so studiously observed.

These are all the distinctions which are necessary to be made with respect to the phthisis when considered as an original disease; when secondary, it will take its name and character from the disease on which it will be found to supervene; as,

4. Phthisis scrofulosa.
5. ——— scorbutica.
6. ——— asthmatica.
7. ——— syphilitica.
8. ——— arthritica.
9. ——— hypochondriaca.
10. ——— chlorotica.

Any variation with respect to treatment, which these may severally require, must be formed according to the particular disease that the phthisical symptoms chance to be combined with, but which cannot now be mentioned, until the scrofula, scurvy, asthma, lues venerea, gout, hypochondriasis, and chlorosis themselves have been described, and the methods of treatment laid down; neither can the nature of the phthisis a peripneumonia, nor of the phthisis a vomica, be well understood, until we have treated of inflammations of the lungs, and the suppuration sometimes consequent.

C H A P. XXI.

Of the Tabes ; its different Varieties, and Methods of Treatment.

THERE is no necessity for being prolix with respect to the other species of hectic fever, as many of the denominations of the different varieties, like those of the secondary phthisis, are taken from the disease with which the tabes happens to be combined, as tabes serofulosa, syphilitica, &c. though there are some which deserve to be particularly noticed, as,

1. *Tabes hepatica* ; which succeeds an infarction or suppuration of the liver. The fallow or yellowish colour of the skin, the yellow or brownish sediment in the urine, joined to a dull pain or sense of heaviness, and fulness in the right hypochondrium, are the signs of an affected liver. A cough very frequently accompanies the foregoing signs, and may sometimes make the disease pass for a phthisis, which will then be termed Hepatica.

2. *Tabes mesenterica* ; the signs are equivocal, but a tense swelling of the belly, and a frequent diarrhoea, joined to the common hectic symptoms, may be reckoned pretty sure tokens of an infarction or suppuration of the mesenteric glands.

The cure in this and in the foregoing variety is to be attempted by the deobstruent gums, with soap and chalybeate preparations, aided by courses of goat's whey when that is in season, or by such mineral waters as abound in the fossile alcali, mixed with asses' milk.

3. *Tabes dorsalis* ; a constant ouzing of mucous and seminal fluids from the urethra, and frequent nocturnal emissions ; pain in the small of the back, with a sensation as if somewhat was creeping down the spine ; costiveness, and difficulty in making urine, joined to the common symptoms of a tabes, may serve to distinguish that which arises from excessive indulgence in libidinous exercises. This disease

is properly sexual, and therefore belongs to the third class; however, we may observe in the mean time, that the cure of the *tabes dorsalis* is seldom perfected, because the patients never apply in time, and when they do seek for medical assistance, they will rarely be found to have resolution sufficient to abstain from the excesses that first brought on the disease; and without such abstinence there will be no possibility of removing the complaint.

If application be made before the febrile symptoms come on, the cure may be attempted by a course of asses' milk, with chalybeate waters and the cold bath; but after the hectic heats and colliquative sweating have actually taken place, there is little prospect of saving the patient.

4. *Tabes ab apostemate, seu ulcerosa*; when the purulent contents of an abscess, or the matter of an ulcer in any part of the body, happen to be absorbed, a hectic fever infallibly ensues.

When practicable, the cause is to be removed by opening the abscesses, and dilating the fistulous sinuses which confine the purulent matter, and sometimes by entirely extirpating the part which supplies the purulent fomes.

But when the source cannot be cut off by any of these means, then we must try to correct the acrid and putrefactive nature of the matter, by a liberal use of the cortex, to which it will be necessary to join the common dietetic remedies necessary for tabid cases in general.

5. *Tabes verminosa*; worms in the alimentary canal are a frequent source of the *tabes*, especially in younger subjects.

The species of worms that are most commonly met with in the human body are four: 1. The long round worm like the *lumbrici*, or common earth worms. 2. The flat and short white worm, like a gourd-seed. 3. The *tænia*, or long tape-worm, flat and jointed,

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sometimes

sometimes voided several yards in length; and, 4. The ascarides, small white worms, with sharp-pointed heads, that nestle in the lower part of the rectum.

Beside the general symptoms occasioned by worms, it has been observed, that sudden gripings about the navel denote the presence of the lumbrici; a weight in the belly, as if a ball were rolling about in it, is held as a sign of the tape-worm, more especially if the gourd-worms are voided from time to time: and itchiness about the anus, with a tenesmus, are signs of the ascarides.

Such are the symptoms usually attending the particular species, but, in general, an inflation of the stomach, an uncertain and variable appetite, sometimes voracious, and then again defective, irregular pulse, stinking breath, whitish and turbid urine, and flushing of one cheek in a circumscribed spot, frequent rubbing of the nose, and grinding of the teeth during sleep, may be held as pretty sure signs that there are worms, and may authorise the prescription of anthelmintic remedies.

The three first-mentioned species which inhabit the smaller intestines, or nestle in the colon, are to be dislodged by mercurials, or by the powder of tin, first exhibited and then wrought off by a brisk cathartic: the age and strength of the patient must determine the dose. Afterwards, a light tincture of the *hiera picra* will be found of great service in preventing a relapse; or an infusion may be made in wine or beer, of the *femen fantonicum*, rhubarb, and senna, and taken daily in a quantity sufficient to keep the belly open.

The tape worm has suckers at every joint, by which it is supposed to adhere to the intestines, and hence the great difficulty of dislodging it. In Guiana they use a remedy, which, at first view, one would be apt to think hazardous: this is the spicula of the *filiqua hirsuta*, or courtch, mixed up with melasses or honey to the consistence of a thin electuary: the patients, if adults, take two tea-spoonfuls.

spoonfuls for three succeeding mornings fasting, and then purge it off with rhubarb.

In Sweden it has been found, that drinking some gallons of very cold water in the space of an hour or less, and then immediately taking a large dose of some drastic purge, has brought off long tape-worms; but it is necessary that the patients should habituate themselves to the cold water in smaller quantities for some days before they venture to take that large dose of it, which is necessary to make the worm quit the hold which it has of the intestines, by means of its suckers; for it is supposed, that the sudden application of so much cold water has this effect on the worm, and leaves it ready to be swept away by the subsequent deluge of humours, derived into the guts by the force of the cathartic.

Drinking largely of the natural purging waters, such as the Cheltenham and Epsom, or those which are found in the wells in some parts of the city of Dublin, would probably answer still better than the Swedish method, and be attended with less hazard: for if the cathartic should not operate quickly, such a load of cold water in the body might be productive of ill consequences.

None of these methods will serve to dislodge or destroy the ascarides, which require the injection of clysters, composed of decoctions of wormwood and rue, in oil, with a small quantity of aloes dissolved, or, which is still more efficacious and certain, blowing the smoke of tobacco by a proper contrivance into the rectum.

When tabid symptoms have been produced by worms, health will soon be restored, after these are dislodged, if the viscid slime which loads the intestines, and favours the generation of the worm, be also removed, and hindered from collecting again; for this purpose it will be necessary to keep the patients for a few weeks on a course of lime-water and strengthening bitters, with some of the preparations of steel.

It is to be observed, that in all the varieties of consumption, the wasting, weakness, and loss of appetite, are often evident for a considerable time before the febrile symptoms are perceivable; but as a hectic constantly supervenes, it is wrong to consider the phthisis and tabes in any other light than as species of this genus of fever, or to place them, as Sauvages hath done, in another order of diseases.

Two tables are here subjoined; the first exhibiting a synopsis of the different genera and species, and the second containing the several varieties of fevers.

T A B L E I.

A S Y N O P S I S O F F E V E R S.

G E N E R A.	S P E C I E S.
I. Continual fever.	1. Simple continued fever. 2. Inflammatory. 3. Nervous. 4. Putrid. 5. Mixed.
II. Intermittent fever, or ague.	1. Quotidian ague. 2. Tertian. 3. Quartan. 4. Erratic.
III. Remittent fever.	1. Inflammatory remittent. 2. Putrid.
IV. Eruptive fever.	1. Small-pox. 2. Measles. 3. Scarlet fever. 4. Erysi-

FEVERS.

405

GENERA.

SPECIES.

4. Erysipelatose fever.
5. Miliary fever.
6. Aphthose fever.
7. Vesicatory fever.
8. Plague.
- V. Hætic fever.
 1. Phthisis.
 2. Tabes.

TABLE II.

GENERAL CATALOGUE OF FEVERS.

GENERA.	SPECIES.	VARIETIES.
I. Continual fever.	1. Simple continual.	Febris plethorica.
		—— a frigore.
		—— a calore.
		—— a dolore.
		—— catarrhalis.
	2. Inflammatory fever.	Febris inflammatoria cephalalgica.
		—— soporosa.
		—— pleuritica.
		—— rheumatica.
		—— dysenterica.
	3. Nervous fever.	Nervosa communis, seu febricula.
		Febris hydrocephalica.
	4. Putrid fever.	Febris carceraria
		—— maligna Hungarica.

Febris

GENERA.	SPECIES.	VARIETIES.
		Febris maligna Ægyptiorum.
		—— icteriodes Carolinensis.
		—— ——— Canadensis.

5. Mixed fever.

Febris depuratoria.
 —— sudatoria.
 —— comatosa.
 —— variolosa.
 —— hyemalis.
 —— verminosa.

II. Intermittent.

1. Quotidian.

Quotidiana simplex.
 —— duplicata.
 —— hysterica.
 —— cephalalgica.

2. Tertian.

Tertiana legitima.
 —— spuria.
 —— pleuritica.
 —— asthmatica.
 —— carotica.
 —— cardialgica.
 —— duplex.
 —— duplicata.
 —— urticata.
 —— hemiplegica.
 —— rheumatica.

3. Quartan.

Quartana legitima.
 —— splenetica.
 —— hepatica.
 —— metastatica.

4. Erratic.

Quintana, sextana, &c.

GENERA.	SPECIES.	VARIETIES.
III. Remittents.		
	1. Inflammatory remittent.	
	Febris remittens catarrhalis.	
	—————	peripneumonica.
	—————	ardens.
	2. Putrid remittent.	
	Febris remittens biliosa.	
	————	anginosa maligna.
	————	paludosa.
IV. Eruptive.		
	1. Small-pox.	
	Variolæ simplices discretæ.	
	—————	confluentes.
	—————	chrystallinæ.
	—————	verrucosæ.
	—————	complicatæ inflammatoriæ.
	—————	chrystallinæ.
	—————	nigra, seu sanguineæ.
	—————	dysentericæ.
	2. Measles.	
	Morbilli regulares.	
	————	anomali.
	————	variolosi.
	3. Scarlet fever.	
	Febris scarlatina benigna.	
	—————	maligna.
	4. Erysipelatose fever.	
	5. Miliary fever.	
	Miliaris simplex.	
	————	catarrhalis.
		Miliaris

GENERA.	SPECIES.	VARIETIES.
		Miliaris inflammatoria.
		———— ferofa.
		———— putrida, feu petechialis.

6. Aphthofe fever.

7. Vesicatory fever.

8. Plague.

V. Hectic.

1. Phthifis.

Phthifis ficca.

———— mucofa.

———— hæmoptoica.

———— fcrofulofa.

———— fcorbutica.

———— afthmatica.

———— fyphilitica.

———— arthritica.

———— hypochondriaca.

———— chlorotica.

2. Tabes.

Tabes hepatica.

———— mefenterica.

———— dorfalis.

———— fcrofulofa.

———— fcorbutica.

———— afthmatica.

———— fyphilitica.

———— arthritica.

———— hypochondriaca.

———— chlorotica.

A
METHODICAL INTRODUCTION
TO THE
PRACTICE of PHYSIC.

BOOK II.
INFLAMMATIONS.

CHAP. I.

General Methods of treating Inflammations.

HAVING shewn the practice in fevers, we now come to that which is required in cases of inflammation.

Though the different seat of the disease, and other circumstances, will sometimes vary the method of treatment, yet there is a general scheme of management with respect to inflammations, let them be seated where they will, which must be adapted to the particular stage or period of the disease.

Methods to promote a Resolution.

When we laid down the theory of inflammations in general, the different ways they terminate were then explained: the first of which is by resolution; and this, when practicable, is what we are always to aim at, except in cases where it is found that the inflammation is owing to the expulsion of some acrid matter from the blood, in the way of crisis.

G g g

Bleeding

Bleeding is one of the principal means used to check the progress of an inflammation, and drawing off a large quantity of blood will always, for a time, allay the general intenseness of motion in the vascular system, and abate that excess of heat which is a necessary consequence; but it will not always calm the local intenseness, or lessen the degrees of oscillatory motion in the vessels where the inflammation is seated: we therefore have recourse also to local bleedings, which, though the quantity thus taken away be but small, are found of more immediate service in abating the inflammation, than taking a considerable number of ounces from the arm. These local bleedings are accomplished by leeches, or by cupping with scarification.

But smart purging is, in general, a more certain means of abating an inflammation than even bleeding; for, in this way, large derivation may be made, in consequence of which, the inflamed vessels will return to their natural rates of motion, and recover their due degrees of strength.

Nitre, as being the most powerful cooler in the *Materia Medica*, is frequently given, though not always with success; for though it may have considerable powers in allaying the general heat, yet it does not seem to have much virtue in abating that which is local.

In external inflammations, where we can avail ourselves of topical remedies, the application of things which have an emollient and sedative quality will be necessary, where the predominant cause of the disease is excess of the oscillatory motion.

But when an inflammation is seated internally, so as not to admit the immediate application of topical sedatives, nothing is more effectual in procuring a resolution, than laying on a blister where the pain is felt, or as near to it as the nature of the case will allow.

Or, if the pain be less urgent, and blistering should be deemed too severe, then, rubbing with volatile liniment, laying on bags
of

of flannel filled with hot salt, or applying some stimulants by way of poultice, must be substituted in the room of blisters.

Discutient fomentations are chiefly to be depended on in such inflammations as succeed wounds, bruises, fractures, and the like external injuries.

But there ought to be some attention given in regard to continuing the use of fomentations, lest they be protracted beyond the due time; for then they will do harm, by creating an additional laxity of the fibres, whence will succeed weakness and obstinate swellings.

These are the means whereby we may hope to succeed in procuring a resolution of an inflammation, when it is owing more to an increase of oscillatory motion than to a defect of the resisting power; but in those cases which evidently depend most on relaxation, and weakness of the vessels, we are to be more sparing with respect to bleeding and purging; we should also omit the application of emollient and warm fomentations, and depend on astringents, repellents, and strengtheners.

Strengtheners are also required in cases of inflammation which are owing to excess of oscillatory motion, so soon as this shall be allayed by the means already proposed.

The external strengtheners usually consist of solutions, and mixtures of white vitriol, alum, saccharum saturni, lapis calaminaris, and tutty, in rose or plantain water; also tincture of roses and infusions of balauftines, and of pomegranate peel: these are occasionally made into eye-waters and gargles, for such species of opthelmy and quinsy as shew plainly that the fault lies chiefly in the weak and relaxed state of the inflamed vessels: these diseases often require the use of internal strengtheners, the principal of which is the cortex, aided by cold bathing.

Blistering, though frequently ordered in these cases, is not found to be of that immediate service as in the inflammations which proceed from a predominancy of the other conjunct cause.

Management in Cases of Exudation.

So far with respect to the methods which are to be occasionally put in practice when there are hopes of a resolution; but from calling to mind the history of the progress of inflammations, it is easy to understand, that unless we are so happy as to succeed in procuring this desirable termination early in the disease, it will soon be too late to expect it; it is therefore only within the first four or five days (unless the degree of inflammation be but slight, and it proceeds chiefly from relaxation) that we are to pursue the methods directed for procuring a resolution; after that, if the symptoms still continue to grow more distressing, the best that can be done is, to favour the exudation, when the seat of the disease, and nature of the part affected, will allow that way of termination; which, as hath been formerly explained, is when the vessels which run on or near the surface of different parts, are those which have been seized by the inflammation.

The pores and open orifices on the surface, which is the seat of inflammation, ouze out a quantity of purulent fluid, which seems to be a peculiar composition of lymph, mucus, and oil, with sometimes an evident share of the red part of the blood.

If the inflamed part be one of those which are naturally supplied with lymph and mucus, for the purposes of keeping the membranous coverings in a state of moisture, the discharge by exudation is generally very considerable.

Persons conversant in the dissection of morbid bodies, have frequent occasion to see collections of this exuded matter in the abdomen, where it has oozed from the pores on the surface of the peritoneum, or of different viscera which have been inflamed; and in the thorax, where it has exuded from the pleura or surface of the lungs, without any visible breach, ulceration, or dissolution of the solids.

On some occasions, however, this purulent matter which is thrown off by exudation does acquire a degree of sharpness sufficient to melt down the solids, and form superficial ulcers; and when the more subtle part of it is exhaled, it frequently leaves whitish or yellowish sloughs behind, adhering like a membrane to the surface of the inflamed part.

There are no certain methods of knowing when an inflammation terminates in the way of exudation, except in such cases as allow the matter to discharge itself; for, when it is pent up in the thorax, or any other cavity, it will be impossible to tell how things are, until a new train of symptoms shall arise; for the pain and heat, and the symptoms which necessarily attend them, will subside, when the inflamed vessels thus get rid of their load, and are freed from the distension.

But matters seldom remain long in suspense; for the hectic fever, which infallibly succeeds, will sufficiently shew that there is a purulent fomes.

It is only in cases of external inflammation that any material aid can be afforded, when the disease terminates in this way; and here, the general scheme must be to facilitate the discharge, so as to let the purulent matter entirely pass off; to moderate the remaining force of the inflammation, and prevent any destruction or ulceration of the solids.

Hence the same means that were proposed in procuring a resolution, must still be persisted in to a certain degree; and we must repeat the bleedings, and give cathartics, according to the violence of the inflammation, and according as there appears to be more or less of a flow of humours to the inflamed part.

The topical applications here consist of lotions, epithems, cerates, unguents, and injections; the composition of which must be varied according as they are intended to cleanse, to heal up, or to strengthen.

Manage-

Management of an Abscess.

The management of an abscess, which takes place when an inflammation cannot be resolved or dissolved, nor from its deeper situation pass off by exudation, is next to be explained.

When the case therefore is so circumstanced as to render an abscess not only unavoidable, but desirable, and where we can avail ourselves of topical applications, the business then is, to hinder the dissipation through the pores of the inflamed part, and to add to the heat of the fluids there accumulated, in order to promote the fermentation, and render the humours more active in melting down the solid lamellæ; it is therefore proper to apply things which shall not only soften the teguments, but also clog up the pores, and gently stimulate with the design of increasing the heat.

In proportion as the matter of the abscess accumulates, it enlarges the cavity that contains it, and this enlargement is most on the side where there is least resistance; hence it is, that collections of matter which are formed in the abdominal viscera mostly point outwards, while those which take place in the lungs, with very few exceptions, burst internally, on account of the resistance made by the sides of the thorax; and when a deep-seated abscess in any fleshy part of the body is covered with an aponeurosis, the matter runs along the interstices of the muscles, until it arrives at some place where there is but little resistance, and then pushes out, perhaps at a considerable distance from that which was the original seat of the inflammation.

These abscesses hitherto spoken of are supposed to arise gradually from an inflammation proceeding through its regular stages; but there are others which make a more sudden appearance, and seem as if the matter, with which they are filled, were thrown off ready formed, from the general mass of circulating fluids; such abscesses are usually preceded by a fever, and prove salutary when they do not take place in any organ of importance.

If

If there happens to be any part of the body where the vessels have suffered from a preceding inflammation, or have had their fibres weakened by some external injury, the critical abscess will settle in that place.

In whatever way the abscess happens to have been formed, whenever it is sufficiently ripened, which will be known by the pointing of the tumour, softness of the teguments, and fluctuation of the contained fluid, it ought to be opened, lest the purulent matter, being pent up, might go on to melt down too much of the solids, and perhaps destroy the texture of nerves or blood-vessels, or get through the periosteum, and bring on a caries of the bones, if any are near; or, being absorbed, and carried back into the circulation, give rise to an hectic fever.

Management of Gangrenes.

Such are the general methods of management with respect to abscesses; but in habits where the juices are uncommonly sharp, and the force of the inflammation so extremely violent as to destroy the texture of the vessels, instead of only enlarging their pores, then a gangrene will take place.

It has been already shewn, that, in cases of suppuration, the solids which are melted down are only inert solids, nothing more than laminae of the tela cellulosa, and vesicles containing the fat; whereas, in those of mortification, the texture of the nerves and vessels is altogether destroyed.

The scheme to prevent an inflammation from running into a gangrene will differ according to the first source of the disease, the patient's constitution, and the natural strength of the vessels.

If the inflammation was brought on by some external injury, and the patient be one whose fibres are remarkably strong and rigid, and whose blood is dense, the pulse quick, full, and hard, with high

degrees of heat, pain, and dryness, we ought to repeat the bleedings, and persist in the use of antiphlogistic remedies, even after we are certain there can be no hopes of a resolution, and though we find that at least a suppuration must ensue; since by these means we shall perhaps be able to divert the too violent force of the blood from the vessels of the inflamed part, and so hinder them from being actually ruptured: at the same time, the application of emollients, in the ways of foment and cataplasm, will contribute to relax the fibres, and favour the transudation from the pores in the coats of the inflamed arteries.

But if it shall appear, that the fluids are in an acrid or putrescent state, which may be inferred from the appearance of the blood which is drawn (not parting, as it ought to do, into serum and crassamentum) from the weak pulse, loss of strength, dejection of spirit, and fetid ichorous discharge, then the most likely method either to prevent a gangrene from coming on, or to facilitate the separation of the mortified part, is to give the Peruvian bark, with wine, or with acids, according as the state of the pulse and other circumstances of the patient may require.

It is too systematical to consider a mortification as always connected with inflammation, because it is frequently found to be the result of some particular depravation of the juices, and is then to be held as a distinct genus of disease. For this reason, we shall not now proceed any further in the method of treatment, but reserve it for the ninth Book.

For as it often happens, that purulent matter shall, by an effort of Nature, be thrown off from the circulating fluids, under the name of a Critical Abscess; so, in like manner, it is sometimes seen, especially toward the close of putrid fevers, that an exceedingly acrid matter shall suddenly be deposited on the vessels of a particular part, and corroding them, produce what may be termed a Critical Mortification, which inevitably destroys life, if the part so loaded happens

to be an organ immediately necessary to the general œconomy; whereas, if this caustic matter be thrown out to the surface, or shall fix on some of the extremities of the body, then the expulsion of it may prove the means of preserving life, at the expence of some of the limbs.

There are also some astonishing instances of mortifications coming on so very suddenly, that the fever or inflammation, if any degree of either preceded, have passed unobserved; and the first notice the patient has had of the disease, has been from the coldness, insensibility, and discolouring of the part affected.

Management of indolent Swellings.

It now only remains to say somewhat concerning the indolent swellings, which are sometimes the consequences of an inflammation.

The injudicious and protracted use of hot fomentations often invites such a flow of humours, and relaxes the fibres to such a degree, that they give rise to swellings, which prove tedious, and difficult to remove: this is frequently seen after fractures, luxations, or other external injuries that have been attended with inflammation at the beginning; and in glandular parts, where the circulation is naturally languid, it often happens that a suppuration either shall not ensue, or if it does take place, shall not be so complete as to melt down enough of the solids, in order to remove the swelling and hardness. But in these glandular swellings, there is sometimes a mixture either of the scrofulous or venereal taint, each of them demanding a diversity of treatment, adapted to the particular disease.

In the cases of indolent swelling, which have no dependance on either of these species of acrimony, and where there appears to be nothing amiss, with respect to the soundness of the fluids, if the hardness be so considerable as to require particular attention, nothing answers so effectually as exposing the part affected to warm vapour

or steam, confined by proper contrivances, and directed to the place where the hardness and rigidity subsist.

If the swelling, on the contrary, be œdematous, or soft and flabby, then, pumping cold water on the part, dry frictions, and well-adapted bandages, when they can be applied, will bid fair to restore things to the healthy state.

C H A P. II.

Descriptions, and Methods of Treatment of the different Species of external Inflammation, which have no fixed Seat.—Phlegmon, Erysipelas, Boil, Carbuncle.

WHEN we treated of inflammations in general, it was proposed to make only two generical distinctions, *external inflammation*, when the inflamed part being either in view, or within reach, we can avail ourselves of topical applications; and *internal*, wherein the cure must depend on general evacuations, and the use of internal remedies.

Such inflammations as have no fixed seat, but appear indifferently on any part of the external surface, are distinguished into species, according to the nature and extent of the disease, and are known by the names of *Phlegmon*, *Erysipelas*, *Boil*, and *Carbuncle*; those which are seated in the vessels of some particular part, have their denomination from the part affected, and are known by the names of *Ophthalmia*, *Quinsy*, *Inflamed Breast*, *Parotis*, *Bubo*, and *Hernia Humoralis*, according as the inflammation happens to seize the *eye*, the *throat*, the *breast*, the *parotid*, the *axillary* or *inguinal* glands, or the *testicles*.

Phlegmon.

When an inflammation is circumscribed, and deeply seated in the vessels of some fleshy part, the term for the disease is *Phlegmon*; a
word

word that the old writers applied to inflammations in general, but which at present is only used in opposition to Erysipelas, when the redness is more extended, and but superficial.

A phlegmon therefore may always be known by the circumscribed swelling and hardness, from the deep red colour, and from the great pain and tension, together with pulsation or throbbing.

Where a phlegmon is not critical, but proceeds from some external cause, we are always to endeavour to procure a resolution; and for this purpose, must bleed largely and repeatedly, according to the circumstances of age, sex, and constitution; and at the same time give the cooling purges which have been formerly mentioned. In aid of these internal remedies, we must also make use of fomentations and cataplasms, in order to facilitate the dissipation of one part of the impacted humours, and the absorption of the remainder. The fons communis of the London Dispensatory is what the surgeons generally use on these occasions, and this will be rendered more powerful by adding to every gallon of the decoction an ounce of crude sal ammoniac, half a pint of vinegar, and as much of common ardent spirit. The stupes should never be applied with more heat than gives an agreeable sensation; and after having sufficiently fomented the part, let it be covered as far as the inflammation extends, with a poultice made of the lees of claret, thickened to the proper consistence with bran; or with a cataplasm of bean-meal and simple oxymel, softened with a sufficient quantity of oil of roses. When by these means the inflammation is dispersed, then, in order to strengthen the part, and brace up the vessels, it will be proper, after a few days, instead of the cataplasms, to apply cloths dipt in equal parts of simple lime-water, vinegar, and camphorated spirit of wine.

But if, in spite of our endeavours to carry off the inflammation by resolution, it should nevertheless continue, and the heat, redness, pain, and swelling increase daily, then we may expect an abscess;

and in order to forward the suppuration, must change the discutient fatus for one of an emollient quality, (such as milk, in which the leaves of mallows, and some bruised linseed, have been boiled) and apply bread and milk poultices, softened with ung. ex althæa, instead of the bran with lees of claret, or the bean-meal cataplasma.

By a continuance of these applications, (or if the simple bread and milk poultice shall not be deemed sufficiently emplastie and heating, we may add to it some linseed-meal, and white lily-root, or apply the cataplasma maturans ph. Lond.) a kindly suppuration will generally be found to succeed; and when the abscess is formed, it usually will point in some favourable place for opening. The manner of opening the abscess must depend on the particular circumstances of the case, with regard to situation, and magnitude of the swelling: in very large abscesses, it is best to cut out an oval piece of the teguments, so as not to leave any loose flabby edges, but in those of moderate size it will generally be sufficient to make only a simple incision.

The first dressings require nothing but dossils of dry lint, laid in gently, and covered over with a pledget spread with yellow basilicon, or turpentine mixed with the yolk of an egg; in a few days, if the sore does not appear to be clean, the dossils must be armed with somewhat of a detergent quality; red precipitate, mixed with black or yellow basilicon, or the green basilicon alone are what the surgeons usually apply, in order to cleanse away the sloughs that frequently fill the bottom of the sore: when these cast off, and the red granulated flesh begins to sprout up, then the dry dressings must be applied again; and these, with the proper assistance of bandages, are all that Nature generally requires to complete the cicatrization.

In some habits we shall find such a sharpness of the juices, that there will be a necessity for giving the cortex, in order to bring on a kindly suppuration, and facilitate the healing of the sore after the opening.

opening of the abscess: and we shall know the cases that require the cortex, by observing the thin and acrid state of the discharge, while there is usually more or less of a hectic fever attending: whenever we find things in this state, we must not delay, but immediately begin, and give the medicine in such form and dose as the particular circumstances of the case may require.

In other cases, mercurials and decoctions of the sweetening woods are required, in order to correct the sharpness of the discharge.

Erysipelas.

In the *erysipelas*, the swelling is not circumscribed, the redness is not so dark as in the phlegmon, but bright and shining; and when the inflamed part is pressed with the finger, the spot remains white for a few moments, but grows red again after the pressure is removed; all which circumstances shew the seat of the inflammation to be in the subcutaneous vessels: but very often the phlegmon and the erysipelas are so blended, that the old writers used to bestow compound epithets on the inflammation, calling it *Phlegmon Erysipelatodes* when the phlegmon was thought most predominant, and *Erysipelas Phlegmonodes* when the erysipelas appeared to prevail.

The treatment of an erysipelas, when the consequence of an eruptive fever, having been already laid down, we have only to consider it as a simple inflammation, succeeding some external injury.

As the true simple erysipelas never ends in an abscess, but either goes off by resolution or exudation, the topical remedies must always be such as shall favour the expulsion of the impacted fluids through the pores of the skin; hence, in these inflammations, we are never to apply things which are of a greasy and emplastic nature, but only make use of such epithems and fomentations as shall dilute the fluids: a decoction of linseed and white poppy heads, with elder and camomile flowers, and a due proportion of the linimentum sapo-
naceum,

naceum, will make a proper fomentation so long as the skin keeps whole; but when angry pimples, or little blisters arise, then the ung. tripharmacum ph. Lond. spread on soft linen will be the most eligible application; and by way of epithem, a mixture of equal parts, simple lime-water, oil, vinegar, and camphorated spirit of wine, in which soft linen rags are to be moistened, and laid to the inflamed part.

The ancients had great scruples as to bleeding in the erysipelas, because they judged the inflammation, in this case, to be owing to a bilious humour; whereas the phlegmon was thought to arise from a fluxion of pure blood: and these scruples have been copied even by modern systematic writers, but without much reason; for bleeding and cooling purges are as often required in the erysipelas as the phlegmon, always proportioned however to the particular circumstances of the patient, and exigencies of the case.

Boil.

The *furunculus*, or *boil*, is an inflamed swelling, more circumscribed and pointed than even the phlegmon, very hard and painful, arising indifferently in all parts of the body. As boils are seldom capable of being discolled, the only thing left is to promote suppuration, by maturing cataplasms, or in some cases by plasters, composed of equal parts, emplastrum e mucilaginibus, & commune cum gummi; and when the suppuration shall be complete, to make an opening sufficient for discharging the matter; which in this case is not altogether fluid, like the pus of an abscess, but consists chiefly in firm sloughs, that form a core, which must cast out entirely before the sore will heal up.

In constitutions where boils break out frequently, or in such abundance as to distress the patient, there will be a necessity for mercurials and decoctions of the sweetening woods, to correct the depravation of the fluids.

Carbuncle.

Carbuncle.

The *anthrax*, or *carbuncle*, is more livid, but not so painful as the common boil, never suppurates kindly, but blisters, mortifies, and yields a sharp ichor, and black sloughs, instead of mild pus and the yellow core. The appearance of carbuncles always argues the presence of the most caustic and deleterious kind of acrimony, and should constantly warn us to expect the worst.

Those which appear in the plague have been already mentioned; but it sometimes happens, that carbuncles are sporadic, and shall break out when there is no pestilential fever epidemic.

On the neck, and about the shoulders, are the places where these swellings most commonly appear; if the patient be sick, languid, feeble, and oppressed, with a weak slow pulse, and is constantly dozing, we may pronounce death to be near at hand. Emollient applications are preferable to those which are acrid, but it must be confessed that these are cases wherein neither internals nor externals are found to avail; and the principal use of describing the carbuncle is, that it may not be mistaken for a common boil, and consequently be looked on as an affair of no great hazard or danger.

C H A P. III.

Of the Ophthalmy, or Inflammation of the Eye.

WE might distinguish several varieties of the *ophthalmy*, but the principal thing to be considered is the degree of inflammation, whether it be slight, when only the vessels of the tunica adnata and sclerotica are affected; violent, wherein there is much pain, and the inflammation spreads to the eye-lids; or most violent, when the internal vessels of the eye are the seat of the inflammation, which, in these cases, is accompanied with a high fever, intolerable pain and delirium.

delirium. We are also to consider whether the disorder has been brought on by any external injury; whether it springs from some internal sharpness of the juices; or whether from some fault in the atmosphere, which disposes to this particular disease.

The slighter degrees of ophthalmy may often be cured without bleeding, or other evacuation, merely by the use of external remedies. But when the inflammation is considerable, and attended with great pain and a degree of fever, then we must have recourse to the cooling purges and antiphlogistic regimen. The greater degrees of inflammation are not to be cured without large and repeated bleedings, not only from the usual places where veins are opened, but also by applying leeches to the upper part of the cheek, or to the temple near the external angle of the eye. And, beside these local bleedings in obstinate cases, it will be of service to blister behind the ears, or back of the head, or to apply cupping-glasses with scarification.

The topical applications must be varied according to the circumstances of the case.

It was formerly shewn, that an inflammation is the effect of two conjunct causes; namely, an excess of the oscillatory motion, and a want of sufficient resistance in the coats of the vessels: in some cases of ophthalmy, we may plainly observe the predominant cause to be intenseness of motion; and when we find it so, (which may be inferred from the great heat, dryness, and very severe pain) then we shall obtain relief by bathing the eye with luke-warm milk, in which poppy heads have been boiled, afterwards laying on a poultice made by thickening this decoction with crumbs of bread, inclosed within the folds of a soft cambrick handkerchief.

On the other hand, when we find, from the flabby state of the inflamed vessels, the moisture of the eye, and the moderate degrees of heat and pain, that the predominant cause is relaxation, then we shall

shall find, that astringent eye-waters and the application of alum-curd will soonest remove the inflammation.

Where the vessels are greatly relaxed, we often find the cortex of much service, and in some cases it is usual with surgeons to cut away part of the flabby distended vessels, which are chiefly the veins spread over the white of the eye; the cure will seldom be perfected without the bark in scrofulous habits, and, in these subjects, the edges of the eye-lids being swelled and ulcerated, frequently require some manual operation to evacuate the acrid humour, by laying open the sinuses that run along from ulcer to ulcer. And, beside the common ophthalmic applications, we must have recourse to liniments*. It is usual also with surgeons to touch gently these ulcerated eye-lids with lapis infernalis, and afterwards apply softening digestive liniments; but this, like cutting of the vessels, requires a nice hand, and much caution. In all cases of inveterate ophthalmia, we are carefully to inspect the eye to see whether the inflammation is not kept up by the eye-lashes turning inwards; this is a cause that is often overlooked, and constitutes that variety of the disease, termed Ophthalmia Trichiasis, but when known, is easily removed by plucking out the inverted hairs.

When the inflammation does not immediately give way to bleeding, purging, and proper external applications, we are obliged to blister the back of the head, or behind the ears, and keep up the discharge for some weeks; or, in more obstinate cases, to make issues in the arms, or put a seton in the neck; or, which has been found to answer still better, to pierce the lobes of the ears, and excite a discharge from the punctures, by constantly keeping little skeins of silk in the openings, in the manner of a seton.

* Such as the ung. tutiæ; or the following, recommended by Sir John Pringle:
R Ung. alb. dr. quinque, sacch. saturni scrupulum, inter terendum, adde bals. traumat. serup. duos.

Inflammations of the eye, like those of other parts, sometimes terminate in a suppuration.

When the seat of the disease has been internal, and the matter is formed within the globe of the eye, the sight is irreparably lost, as the purulent matter must destroy the transparency of the humours: and even when the inflammation has been but superficial, yet, if abscesses be formed on the transparent part of the cornea, they generally leave cicatrices behind them, which, thickening the coat, obstructs the passage of the rays of light, and so produce different degrees of blindness.

C H A P. IV.

Descriptions and Methods of Treatment of the different Varieties of Angina or Quinsy.

THE *quinsy*, or *inflammation of the throat*, is a common disease, and frequently epidemic; when sporadic, it usually attacks persons, who, after having been over-heated, imprudently expose themselves to a cold air, or ride against a sharp drying wind.

1. The most common variety of this disease is the *angina tonsillaris*, wherein the seat of the inflammation is the tonsils, with the uvula and velum palati; for the most part only one tonsil is affected at first, from whence it spreads across the velum palati to the uvula and opposite tonsil. While the inflammation is confined to one side, the patient can swallow tolerably, though with considerable pain; but when both tonsils are affected, then deglutition becomes extremely difficult, and the pain grows almost intolerable, sometimes so great as to bring on convulsions in delicate habits.

It is not unusual in this disease to see the patients able to swallow solids with less difficulty than liquids, because the swallowing of
liquids;

liquids requires the action of more of the muscular fasciculi, subservient to deglutition, than that of solids; the spittle, on account of its viscosity, being more difficult to swallow than even the liquids used for drink, the patient suffers it to accumulate in the fauces, and hence the continual hawking, which increases the soreness of the parts affected, and prevents sleep.

The neck is sometimes puffed up, and this is reckoned not an unfavourable circumstance, as it shews less danger of suffocation; and there is in general a pain striking to the internal ear, from the inflammation's spreading to the aperture of the eustachian tube.

By degrees the inflammation either goes off or a suppuration ensues, and an abscess is formed in one or both tonsils, for it rarely happens that the parts mortify.

If the inflammation spreads downwards among the muscles of the larynx, so as to render the opening of the glottis difficult, the disease becomes extremely dangerous, on account of the suffocation which threatens the patient: equally alarming is the case, when the morbid matter appears to be translated to the brain, producing a violent headach, and high delirium: or to the lungs, creating oppression of the chest and difficulty of breathing: but if the matter of the disease shifts from the internal to the external parts, which we know from the skin of the neck becoming red and painful, it always relieves the patient. And it is in order to encourage this translation, that in bad cases we are obliged to lay a blister across the throat. In less alarming ones we content ourselves with applying a piece of flannel moistened in linimentum volatile all round the throat, and up behind the ears.

The true inflammatory quinsy is a disease wherein there is a necessity for large and repeated bleedings, and for brisk saline purges. The topical applications consist of those already mentioned, and of gargles, which, in cases of violent inflammation, are better thrown

into the fauces with a syringe, than left to the patient's own management; for the motion of the inflamed parts, which the frequent gargling requires, is apt to increase the complaint.

Sage-tea, with a little vinegar, makes a good gargle in the beginning, while we have hopes of preventing a suppuration: receiving the steams of this, or of the infusion of elder and camomile flowers in equal parts of water and vinegar, is of service, and will sometimes give great relief, as it favours the exudation and dissipation of the impacted fluids; but when the force of the inflammation is abated, and we want somewhat to strengthen and brace up the relaxed fibres, then the gargles must be made more astringent, and must consist of tincture of roses, or of claret and water, with a little alum and honey.

If the evacuations, and other means intended for procuring a resolution succeed, the fever, headach, heat in the throat, and pain in swallowing, begin to abate from the third, fourth, or fifth day; and in three or four days more the patient is generally quite well, or perhaps only continues to feel some slight degree of pain in swallowing, but without fever.

But if the inflammation does not subside within the first four or five days, we may rest assured that it will run on to a suppuration: and we shall know that an abscess is forming, from observing that the febrile symptoms continue, though abated in violence, the pulse grows softer, the redness of the inflamed parts less florid, and the pain becomes more easy to bear, while the patient feels slight shiverings from time to time.

When we find things tending this way, the suppuration ought to be encouraged, and for that purpose we are to apply maturing poultices to the outside of the throat, and frequently wash the inside by injecting a decoction of figs, or infusion of linseed, taking care to inspect the fauces daily, in order to see if the abscess appears, which it generally does in five or six days.

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These abscesses frequently burst of themselves; but when they are so situated as to be within view, and we see a whitish tumour, and feel the fluctuation with the end of the finger, it will save the patient a good deal of uneasiness, if we immediately open the abscess, and direct detergent gargles, made of barley-water, honey of roses, a little vinegar, and tincture of myrrh.

It sometimes happens, that the matter is collected so low down in the fauces as to be out of the reach of an instrument. In that case, we are obliged to wait with patience for the spontaneous bursting of the abscess, and in the mean time do what we can to support the patient by broth-glisters, if swallowing be impracticable; and by blistering, or stimulating cataplasms to the throat, endeavour to solicit the morbid matter toward the external parts. Though many of these last-mentioned cases are alarming and tedious, yet it seldom happens that the patient dies after a suppuration is formed.

The disease, as hitherto described, is supposed to take place in robust constitutions, and the inflammation to be owing more to intenseness of the oscillatory motion, than to want of resistance on the part of the vessels; but when the contrary happens, which we may conclude from the opposite temperament of the patient, and by observing the inferior degrees of heat, pain, and redness, we are in this case to be more sparing of the lancet, and depend chiefly on purging, and the application of blisters; and the gargles in these pituitose fore-throats are to be sharpened with horse-raddish root, or mustard-seed, in order to stimulate and attenuate the viscid mucus which clogs the folliculi of the tonsils, and other glandular bodies about the fauces.

In these cold constitutions the inflamed tonsils are not so apt to suppurate as in people of a more robust frame; but when suppurations happen, they are to be managed according to the directions already given;

given; and when the parts shall be sufficiently deterged by proper gargles, we must order strengtheners and astringents, not only as topical remedies, but also give the cortex and chalybeates internally, to restore firmness to the constitution in general.

2. A second variety is the *angina trachealis*. When the inflammation particularly seizes the muscles of the larynx, or membranes lining the upper part of the trachea, the breathing is rendered extremely painful and difficult, the voice becomes shrill and rattling, the internal heat and pain intolerably distressing, but no great appearance of inflammation is seen in the fauces, nor any remarkable external swelling.

If the inflammation does not give way to the usual and most common antiphlogistic remedies, and there is evident danger of suffocation, the operation of bronchotomy must be tried, in order to give some chance for saving the patient's life.

3. *Suffocatio stridula*; vulgo, the *croup*: this is nearly allied to the foregoing; and from the particular description given by Dr. Home, appears to be an inflammation of the membrane lining the upper part of the trachea, which is found, on opening the body, to be covered over, and the passage for air almost filled up with a thick flough, having a fibrous and membrane-like appearance, being the viscid remains of mucus thrown off by exudation from the inflamed parts.

The progress of this disease, which is epidemic at certain times, and seizes only children, is so extremely rapid, that there seems to be little or no opportunity of attempting much for the relief of the patient.

Instant blistering across the throat would perhaps be the most likely means of doing service; a peculiar shrillness of the voice, like the crowing of a cock, with a cough, but no sickness, nor at first
much

much difficulty of breathing, are the distinguishing signs of the croup *.

The ulcerous and malignant fore-throats, which are frequently epidemic, and, mostly, like the croup, seize young subjects, do not properly belong to inflammations, and therefore have been already mentioned along with those species of fever that most commonly attend them; namely, the *remittens anginosa maligna*; *scarletina maligna*, and *febris aphthosa*.

4. *Angina maxillaris*; vulgo, the *mumps*: this disease is often epidemic; the inflammation spreads from the parotid and maxillary glands, and affecting the muscles and ligaments, which raise up and connect the lower with the upper jaw, occasions severe pain in opening the mouth. Though the swelling is usually large, yet there is seldom any remarkable degree of fever attending: bleeding once or twice; a smart saline purge or two; and the application of flannel, with the linimentum volatile, are generally sufficient to remove the complaints.

In some instances it has been observed, that when the inflammation in the face subsides, a swelling of the testicles has succeeded.

There might be other varieties of the quinsy mentioned, but these seem sufficient.

Inflammations of the *breast*, as being peculiar to women, must be referred till we come to treat of diseases of the third class.

Inflammations of the *parotid* glands are mostly critical, and the consequence of a fever; therefore we are never, in these circumstances, to think of any thing but forwarding the suppuration, and then, having opened the abscess, treat it according to art.

Buboes also, when supervening a fever, must always be brought forward if possible; but when they happen in consequence of the

* For a particular history of which, see Dr. Home's Essay on the Croup.

venereal infection, it is often a much better and safer practice (as will be shewn in the proper place) to resolve than bring them to suppuration.

An *inflammation* of one or both *testicles*, is a frequent consequence of the venereal infection, as well as of bruises, and other external injuries; and there is also a fever, (called by Morton, *Febris Testicularis*) which, like the mumps, deposits the morbid matter on the testes.

So long as there is any reasonable prospect of resolving the inflammation, we are to pursue the antiphlogistic remedies, both internal and external, and try by every possible means to prevent a suppuration from taking place; but when matter does form, in spite of all that can be done, it must be discharged without loss of time by a sufficient opening, in order to prevent the testicle from being irreparably injured by soaking in a purulent fluid.

C H A P. V.

Internal Inflammations; Descriptions, and Methods of Treatment of the Phrenitis and Otitis.

BY *internal inflammations* are meant those which seize the different parts that line or fill up the three great cavities, cranium, thorax, and abdomen.

We shall begin with the head, and first give a description, and lay down the method of treatment for the *phrenitis*, or inflammation of the membranes investing the brain.

The distinguishing signs of this disease are, a most violent and furious delirium, an excruciating pain of the head, and redness of the eyes, with a quick, hard, and generally small pulse.

We are not to confound the delirium, which is a common symptom in many fevers, with the original inflammation of the meninges, which

which will readily be distinguished by observing, that in the phrenitis the delirium is evident, and violent, before there be any remarkable degree of fever; whereas, in the common febrile delirium, the disease is always of some days continuance before the delirium is observable, and the degree of raving is correspondent to the degree of fever: but in the true phrensy the degree of fever is never correspondent to the delirious fury, which is equal to what we meet with in real madness, from which the inflammation of the meninges is hardly to be distinguished but by the shortness of its duration; for it must terminate either in recovery or death, in the space of a very few days.

The original or true phrensy is not a common disease in these temperate climates; but in the hot countries, where people are often exposed to the sun, and incautious of defending the head from the scorching heat, the vessels in that part are frequently so weakened and irritated, that they give way to the force of the fluids, and become the seat of an inflammation, which very seldom admits of a favourable crisis, as one may readily conceive, from considering the delicacy of the affected vessels, and their importance in the animal œconomy.

In such an alarming case, our endeavours to procure a resolution must be proportionally active; therefore, bleeding ad deliquium, administering smart purges, bathing the lower extremities in warm water, shaving the head, and washing it with cold vinegar, or pouring cold water on it, or even applying ice to it, are to be put in practice without delay; at the same time, giving large and frequently repeated doses of nitre. This proceeding is with a view to divert the flow of blood from the head, while we endeavour to allay the intenseness of motion, and strengthen the vessels in that particular part.

If relief cannot be obtained by these means within the first four days, we shall soon see the patient become stupid and sleepy, and convulsions succeeding, will presently terminate in death.

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When things take a favourable turn, whether it be in consequence of the method pursued, or from a plentiful bleeding at the nose, which sometimes happens, and we find the raging delirium subside early, before the vessels have suffered much injury, the patient will recover in a few days, and will have no other complaint but weakness and giddiness of the head, which will wear off gradually; but if relief does not come early, so as to prevent the vessels of the brain from being much over-distended, then, even though the patient should survive, yet, for the most part, the senses never perfectly return, and a degree of idiotism will remain.

Sauvages, by dividing inflammations into *membranaceæ* and *parenchymatose*, was here under the necessity of making two distinct genera, *phrenitis* and *cephalitis*; and he splits these into no less than twenty-four species; intending, by the first, those cases wherein only the meninges is inflamed; and, by the second, those wherein the substance of the brain and cerebellum become the seat of the disease. These distinctions, with respect to practice, are totally superfluous, as being only different stages of the same disease; for the phrenitis, before the patient dies, will generally run on till it becomes a cephalitis.

Otitis.

The *otitis*, or *inflammation of the internal ear*, is accompanied with the most excruciating pain, which frequently rises to such a pitch as to render the patient highly delirious.

In this case, we must endeavour by every means to divert the flow of blood from the affected part, as well as to abate the intenseness of motion, by general evacuations, and the antiphlogistic diet and medicines: hence large and repeated bleedings; cooling and smart purges; cupping with scarification, and applying leeches and blisters to the back part of the head and behind the ears; bathing the legs in warm water, are all to be put in practice in their turns, to try, if possible, to terminate the disease by a resolution; but if, in spite of
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of all our efforts, it should run to a suppuration, and the patient survive till the abscess bursts, and the purulent matter begins to discharge itself from the meatus auditorius, we are then to throw in detergent injections, composed of barley-water, honey of roses, and tincture of myrrh, in order to cleanse the ulcer, and facilitate the discharge of the matter.

C H A P. VI.

Inflammations of the Parts which line and fill up the Thorax.

Carditis. Pleurisy. Peripneumony. Paraphrenitis.

THE membranes which line and divide the chest are extremely liable to become the seat of an inflammation, as well as the lungs, which fill up the greatest share of this cavity. The heart also, and pericardium, are subject to inflammation, as appears from the inspection of dead bodies, wherein the heart has sometimes been found in a state of suppuration, or crusted over with purulent matter.

The name of this disease is *Carditis*, which must always prove mortal, unless the degree of inflammation be exceedingly slight indeed; but the signs of the carditis are so dubious and equivocal, that it must be next to impossible to say precisely when it is present; so that it will always be confounded with the pleurisy or peripneumony, by which terms we understand an inflammation whose seat is either in the vessels spread over the pleura, or in the substance of the lungs.

Some authors hold it superfluous to distinguish the pleurisy from the peripneumony, because dissections have shewn, in hundreds of instances, that the pleura is never affected alone, the inflammation always spreading to the lungs; this, however, only shews, that before death the lungs are always engaged, but does not by any means prove, that in those who recover from the disease, the pleura

may not have been inflamed singly; therefore, in laying down histories of diseases, it seems right to preserve the distinction, and to call that a *Pleurisy*, where there is a high fever, and hard pulse, accompanied with a most acute pain or stitch, increasing always upon inspiration, somewhere in the chest, most commonly the right-side, under the fleshy part of the breast, together with a teasing dry cough, and difficulty of breathing; and term that a *Peripneumony*, wherein the cough is moist, the pain not so acute or superficial, nor the pulse so full and hard, though the difficulty of breathing, and anxiety or oppressive weight, be rather more distressing. But with respect to practice, distinctions are not of much importance, because the methods of treatment depend more on observing the stage of the disease than in knowing the precise seat of the inflammation; for these reasons, we shall first give a combined description of the rise and progress, and then lay down the general method of treatment, without considering the pleurisy as distinct from the peripneumony.

From observations made for upwards of forty years, it appears, that these diseases are most frequent in the British Islands in spring, next to that, in winter, and are but seldom seen in summer or autumn: they appear mostly after a continuance of cold, dry, and windy weather; and usually seize people of strong and full habits, who, nevertheless, are apt to contract coughs on every trifling occasion.

The attack generally begins by a violent shivering, which is soon succeeded by considerable heat, with a cough, and remarkable sense of weight, and tightness of the chest, together with a pain in the head, and sometimes retching to vomit; the stitch does not commence from the very first attack, generally not for some hours afterwards, and sometimes it is not felt till the second or third day.

The pulse in general is remarkably hard, except in very bad cases, when the inflammation is deeply seated, and seizing on the substance
of

of the lungs, occupies a large proportion of this viscus: here the pulse is small, soft, and slow, because of the difficulty that the blood meets with in its passage through the branches of the pulmonary artery, which are compressed by the quantity of transfused fluids in the air-vessels, and in the cellular interstices of the lungs; and hence also the extreme anguish, incessant agitation, and tossing; the patient by constant change of posture, trying, if possible, to obtain some freedom in breathing.

When the inflammation is less violent, and not so much extended, then we find the pulse quick, pretty strong, and moderately full, the pain confined to one side, and such as may be endured; but still there is a straitness of the chest, and sense of weight or oppression; and these symptoms never go off entirely until the freedom of the circulation be perfectly restored.

This freedom is restored, either by art, deriving the flow of blood from the inflamed vessels, which soon recover their tone when the blood is removed from them, or by a natural crisis.

The method of treatment in this species of inflammation depends, as it does in all others, on the particular time that we happen to be called in.

If applied to at the first seizure, we are to order immediate bleeding from a large orifice, and take away as much blood as the patient's age, sex, and constitution will bear; young and robust subjects ought to lose at least 14 or 16 ounces; the patient is then to be well supplied with pectoral decoction, almond-milk, or infusion of the roots of gramen caninum, with liquorice, and ordered to sip them gradually; so that the warm vapour may enter along with the air in breathing, which will tend to relax and set free the pores that open into the pulmonary vesicles from the inflamed arteries; and thus the exudation will be favoured, and the expectoration be sooner brought on, which will unload and relieve the distended blood-vessels; applying

- applying a large sponge, dipt in warm vinegar, to the mouth and nostrils, will also be of use in promoting the exudation.

When the disorder is but slight, and taken in time, the first bleeding generally gives ease for some hours; but then, the complaints of pain and oppression return, and therefore, to obviate their violence, we must repeat the bleeding, and take away 10 or 12 ounces more.

These evacuations will pretty often be found sufficient; as, in consequence of this sudden derivation, the inflamed vessels being eased of their load, will soon recover their strength, and the circulation will go on as it ought to do.

But if, at the end of ten or twelve hours from the second bleeding, the symptoms shall return with additional violence, then we must take away more blood, and apply a blister to the spot where the pain is felt; more especially if the pain be severe, and the inflammation appears to spread outwardly.

Some physicians have immediate recourse to smart purges, in order to favour the resolution of the inflammation, and aver that this practice is followed with greater success than that wherein we wait for the natural crisis by expectoration; but such as are afraid of disturbing Nature, and adhere to the old maxim of not attempting to carry off matters before they are concocted, content themselves with ordering nitre, joined to small doses of emetic tartar, together with softening linctuses to ease the cough. They sometimes also direct the radix feneka, which has obtained reputation in these cases, and give it in decoction, according to a formula in the Edinburgh Dispensatory. This root is said to be a powerful attenuant, and to have remarkably good effects in promoting and keeping up the expectoration, which, when once begun, is to be the great object of our attention: when at any time it begins to flag, we must endeavour to promote it, by mixing lac-ammoniacis and oxymel of squills, with
the

the pectoral decoction, an ounce of each to a quart, and order three or four spoonfuls to be taken every third or fourth hour.

In this, as in most other cases of inflammation, the blood that is drawn is usually covered with a whitish scum, generally termed the Pleuretic Crust, from its being so often met with in this disease: it is held as a favourable appearance when this crust is observed to become less thick and less tough at every successive bleeding, and hence some authors advise to repeat the bleedings until the crust shall disappear.

With regard to the prognostic drawn from the lessening of the crust, (the nature of which was formerly explained *,) it is generally true, provided the patients feel themselves sensibly better at the same time; but whoever shall trust wholly to the appearances of the blood, will often find himself very much disappointed, because there are inflammations where the crust is never seen; but on the contrary, the blood is found in the broken and dissolved state, and the patients bear bleeding as ill as they do in the putrid fevers, formerly described.

So long as the violence of the symptoms continues to increase, we are to go on with the bleedings to the fourth or fifth time, according to the strength of the patient.

But if on the fourth or fifth day the disease begins to take a favourable turn, and we find that towards evening the patient is not so bad as on the night before, and that the cough is less severe, while the expectoration is free, and the matter spit up is less tinged with blood, the respiration easier, the head less affected, and the tongue not quite so dry, then we are not to repeat the bleedings, but go on with the diluents and mild expectorants; and if the belly be not sufficiently open, order an emollient clyster to be thrown up.

If the expectoration continues copious and free, every hour brings relief, and in a few days, things, return to the natural state; but if it should stop suddenly, and not be succeeded by any other discharge,

* In the Semeiology, Chap. VI.

then the case becomes extremely hazardous, and we must try to avert the danger by bleeding, if the pulse will bear it; by directing warm steams to be drawn in with the breath; by applying blisters, and giving antimonials in such doses as shall bring on gentle vomiting, in order if possible to renew the expectoration, and draw off some part of the load from the pulmonary vessels, which, unless speedily relieved, will soon become incapable of transmitting the blood, and consequently a fatal suffocation ensue.

If the inflammation has spread to the substance of the lungs, and a resolution has not been effected early, the disease cannot be expected to terminate favourably in any other way than by a copious and free expectoration; but if it has not so spread, and only the pleura and intercostal muscles have been inflamed, then a plentiful sweat, or a large flow of loaded urine, will often be found to carry off the disease.

When the crisis has been complete, the pain and oppression soon wear off, the cough gradually ceases, and the patient by degrees recovers his former state of health.

But in cases where the patients have not been sufficiently bled, or not early enough; or where they have been too much sunk by excessive bleeding, so that the critical discharges have been hindered from being sufficiently made; or when these discharges have been confused or interrupted by some error or mismanagement, then the vessels which were the seat of the inflammation do not recover their tone, and the fluids which transude into the cellular substance remain accumulated in the cells, where they presently melt down the solid lamellæ, and turn into pus.

This purulent matter is sometimes collected in a cavity between the pleura and intercostal muscles; sometimes it forms a cyst for itself in the substance of the lungs; at other times the matter is diffused through the cellular interstices of the lungs; and sometimes it exudes from their surface, and is poured out and collected in the

9 cavity

cavity of the thorax at large, in all these cases leaving the patient in a very perilous situation.

There is but little chance for a recovery except in those cases where the matter is collected in a cyst, or distinct cavity.

The term for an abscess here is *Vomica*, and it sometimes happens, that this shall remain a considerable while before it bursts; and in some cases where there happens to be but little pressure on any of the larger trunks of the pulmonary vessels, and the cyst is of a compact texture, these abscesses will occasion no great distress, nor much hectic fever; for, if there be little or no absorption, we shall have little or no hectic fever; but whenever the vomica breaks, and the purulent matter is taken up by the absorbents, and carried into the circulation, then the patient will be seized with alternate cold and hot fits, which will bring on profuse sweats, and in the end destroy life, unless it should so happen, that the purulent matter shall be discharged by expectoration.

We may know that a vomica is formed, if after fourteen days the symptoms, though abated in violence, shall still appear far from being removed; the cough, difficulty of breathing, and oppression continuing, though the pain has ceased; the pulse still quick, though weaker and softer; and if, joined to these, the patient shall feel a slight shivering, and this be succeeded by heat, we may be certain that a suppuration has taken place: and when we find these symptoms grow every day more and more distressing, that the cough is exasperated upon the least motion, and the patient can only lie on the affected side, or perhaps cannot lie down at all, while weakness and wasting are daily more evident, then we may be assured that there is a formed collection of matter, from which the patient will have little or no prospect of escaping, unless the abscess should happen to burst into the branches of the trachea, in such a gradual manner

manner as not to occasion suffocation, but allow the purulent matter to be coughed up, and expectorated by degrees.

These circumstances will give rise to the two varieties of phthisis, which were referred to this place; namely, the *phthisis à peripneumonia*, and the *phthisis à vomica*.

It is sufficiently obvious, that while things are in the situation here described, we ought to trust pretty much to Nature, although writers generally recommend the use of gently stimulating and relaxing vapours, to be conveyed along with the air into the lungs, in order to soften the parts, and favour the bursting of the abscess, or the total separation and expulsion of the cyst, with its contained matter, which has sometimes been known to happen; for which ends, it has also been proposed to set the patients on horseback, or jolt them in a carriage, or to give emetics; the event, however, of all these expedients must be very uncertain, for they may chance to occasion such a sudden bursting of the abscess as may bring on immediate suffocation. If the vomica happens to burst in the favourable way, and the expectoration goes on freely, every day bringing relief from the cough and difficulty of breathing, then we may begin to entertain some hope of a recovery, more especially if the matter which is spit up appears of the kindly sort, that is, whitish, smooth, and free from faecor; and in order to favour the healing and cleansing of the ulcer, the patient must be put on a course of the least heating balsamics: conveying balsamic steams into the lungs has also been recommended, as hath likewise the vapour from a chemical nostrum, which appears to be the sp. vitrioli dulcis, dropt into warm water. Ground-ivy tea, sweetened with balsamic syrup, will make a proper drink, which may be taken ad libitum; in like manner may an infusion of the leaves of chervil; or this herb may be bruised, and the juice mixed with whey, and taken liberally; or

or it may be boiled up and made into broth, with the addition of some of the lighter kinds of animal food. As to the rest of the management, it must be formed according to the scheme already laid down when treating of the phthisis.

Sauvages having laid himself under the necessity of making distinct genera of the pleuritis and peripneumonia, has subdivided them into no less than thirty-two species; twenty of the pleurisy, and twelve of the peripneumony.

Though these minute distinctions are extremely satisfactory, considered as histories of diseases, and the industry and accuracy of the compiler greatly to be admired and commended, yet there are but few of them that require to be attended to in forming the indications of cure.

The varieties which depend on the difference of place where the pain or stitch is felt, and which may incline us to determine the precise seat of the inflammation, and to name the disease accordingly, pleuritis dorsalis, mediastini, vel pericardii, are not worthy of notice.

The chief thing to be regarded is, whether the disease be truly and simply inflammatory, or complicated with a putrid, eruptive, or some other epidemic fever; we are therefore to remember, that a *simple pleurisy* is known by the hard tense pulse, by the sharp stitch, neither remitting nor increasing upon the pressure, fixed among the true ribs, not low down among the false, by the dry cough, attended with such an increase of pain, that the patients suppress it as much as possible, being afraid to cough, and the blood which is drawn being covered with a thick buff.

The *simple peripneumony*, which takes place in subjects whose blood is in a sound state, is known by the continued fever, intense heat, redness of the face, full, soft, and quick pulse, sometimes unequal; by the spits, at first bloody, at least tinged red, becoming whitish or
L 1 1 2 yellowish,

yellowish, and viscid, in the progress of the disease; there is no great nausea, the tongue not remarkably foul, nor the breath fetid; blood, like the pleuritic, with the thick whitish crust.

But when these inflammations take place in constitutions where the crasis of the blood has been previously injured by a putrefactive acrimony, or when they are complicated with fevers occasioned by infectious miasmata, such as have been formerly described, then the symptoms of extreme weakness and dejection, sickness, vomiting, petechiæ, and delirium, will be found superadded to the pain in the chest, cough, oppression, and difficulty of breathing.

These complicated pleurifies and peripneumonies are constantly mortal, because the extreme weakness and dejection hinder the large and repeated bleedings, which are the only things capable of removing the inflammation.

In prisons, hospitals, or transport-ships, where infectious putrid fevers prevail, it is not uncommon to meet with these malignant peripneumonies, as the reader will see in Huxham's Essay on Fevers.

They have also been found to rage epidemically in certain seasons, in different countries of Europe; and appear to be occasioned by a most corrosive species of acrimony settling on the lungs, which in a short time produces a gangrene, not conquerable by either Art or Nature.

The reader is referred to Sauvages, who has brought together the histories of these epidemics, which have been recorded by different writers.

Paraphrenitis.

We may conclude that the inflammation has seized the diaphragm from the seat of the pain, and from its vast increase upon every motion of this muscle in breathing or coughing, together with a
prodigious

prodigious straitness or tightening of the chest, as if it were bound round with a cord.

The paraphrenitis, or inflammation of the diaphragm, is said by most writers to be accompanied with a raging delirium like the phrenitis; some, however, deny this, and assert that a simple inflammation of the diaphragm is not necessarily attended with delirium, any more than the simple pleurisy or peripneumony, and Lieutaud is for dropping the distinction, as being a needless multiplication of terms.

The dispute is of no consequence with regard to practice, because nothing more can be attempted for the relief of an inflammation of the diaphragm, than what has been already recommended for the pleurisy or peripneumony.

When the convex part of the liver, where it is connected with the diaphragm, is seized with an inflammation, this will readily be communicated to the parts in the thorax, and will occasion such a cough and difficulty of breathing, as shall make the case appear to be an original inflammation of the lungs.

C H A P. VII.

Inflammations of the different abdominal Viscera.—Descriptions and Methods of Treatment.

THE different species of inflammation of the parts contained in the abdomen, are,

1. The *hepatitis*, or inflammation of the *liver*.
2. *Splenitis*, of the *spleen*.
3. *Epiploitis*, of the *omentum*.
4. *Gastritis*, of the *stomach*.
5. *Enteritis*, of the *intestines*.
6. *Mesenteritis*,

6. *Mesenteritis*, of the *mesentery*.
7. *Nephritis*, of the *kidneys*.
8. *Cystitis*, of the *urinary bladder*. And,
9. *Hysteritis*, of the *uterus*.

Hepatitis.

The liver is not only liable to become the seat of an original inflammation, but is likewise apt to suffer from translations of matter, when at any time its vessels are rendered weak; and this happens often in the course of violent fevers. It has also been observed, that an abscess of the liver has succeeded a fracture of the skull; owing, as is supposed, to the disturbance raised in the biliary secretion from the injury done to the nervous system, which we may infer is much disturbed, from the vomiting that constantly follows severe blows on the head.

The original inflammation of the liver, termed *Hepatitis*, is rather an uncommon case, but may be known by the following signs:

If the superior and convex part of the liver be the place where the inflammation has chiefly settled, the pain will be very acute, especially while the diaphragm is in motion; and it will be found to shoot up along the mediastinum towards the throat and clavicle, attended with a dry cough, vomiting, and loss of strength, a quick pulse, and great increase of pain when the patient attempts to lie on the left side, together with a remarkable tension of the hypochondrium, and foreness to the touch on the right side.

If the inferior and concave part of the liver be the seat of the inflammation, the patient can turn with more ease, the pain will not be so very severe, nor will it increase with the motions of the diaphragm; but there will be great sickness and vomiting, vast oppression and tension of the hypochondrium, and a yellowish cast in the colour of the skin.

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When we happen to be called in at the commencement, we must attempt to resolve the inflammation by the means already proposed in other cases; only here, from the particular disposition of the blood-vessels, and peculiar texture of the liver, we are not to expect such immediate relief from large and repeated bleedings, as we sometimes meet with in other inflammations: blistering on the place where the pain is felt, together with the frequent injection of watery clysters, stuping the belly, bathing the legs, and the saline mixtures, with a little emetic tartar, and as much tincture of rhubarb as will keep the bowels open, are more to be depended on than bleeding.

If these means do not answer in procuring a resolution, an abscess will ensue; or the remains of the inflammation will settle in an indolent swelling, generally ending in jaundice or dropsy.

An abscess of the liver either bursts into the cavity of the abdomen at large, in which case death must inevitably ensue, as the sharp purulent matter will corrode the surfaces of the other viscera; or it pushes outwardly, and occasions a swelling which sometimes points so as to be favourable for opening.

If it should happen that the liver, where it was inflamed, adheres all round to the peritonæum, so as to form a bag for the matter, and hinder it from falling into the cavity of the abdomen, then, opening the abscess by a sufficiently large incision, will probably save the patient's life; but if the adhesion to the peritonæum be imperfect, the matter will fall down between it and the liver into the cavity at large, and the case will be as desperate as that which has been just now mentioned.

Sometimes the matter of an hepatic abscess comes away in the urine, and sometimes it is discharged by stool. When the matter comes off in the urine, we may conclude that it has been taken up by the branches of the vena cava, which are distributed through the liver, and thus carried back into the circulation, from whence it is separated.

separated by the kidneys. But when the pus comes off by stool, it must either have burst into the biliary ducts, and so have been carried by the ductus communis into the duodenum; or the abscess having been formed in the concave part of the liver, where it lies contiguous to the colon, must have adhered to this intestine, and burst into its cavity, from whence the matter will be discharged by stool, in a sudden and large flow, to the great and immediate relief of the patient.

After the abscess is formed, the disease changes its name, and becomes a *tabes hepatica*, the cure of which must be attempted according to the scheme formerly laid down.

Splenitis.

If the spleen becomes the seat of an inflammation, the disease will be termed *Splenitis*. A fixed dull pain, soreness to the touch, with a sense of weight and tension in the left hypochondrium, together with an obscure fever that generally remits, may be held as distinguishing signs of this disease.

As an original disease, the splenitis is exceedingly rare; but the spleen is frequently loaded in consequence of certain fevers, particularly the remittent, and often remains for a great length of time in the schirrous or indolent state.

Sometimes a suppuration takes place in this viscus, and that without much previous distress, or evident disorder, until, bursting all at once, the purulent matter is let loose among the abdominal viscera, and in a few days puts an end to the patient's life.

A middle-aged man, seemingly in health, and going about his usual affairs, was seized suddenly with a total suppression of urine, and at the end of three days died. When opened, the viscera of the abdomen were all found drenched in purulent matter, which had come from the spleen, whose substance was entirely wasted; but nei-

ther stone nor gravel were found in the kidneys or bladder. The extreme sharpness of the matter acting on the exterior surface of the bladder, had caused it to contract itself into a very small compass.

Epiplöitis.

The omentum has been known to become the seat of an inflammation; this, if it can be distinguished, must be by the sharp pain in the upper and forepart of the abdomen, with swelling, tension and soreness to the touch, accompanied with the general symptoms of inflammation.

The epiplöitis is a very uncommon disease; but when it does happen, blistering upon the part, joined to the other means already mentioned, should seem to be the most rational scheme for preventing a suppuration; for, if that should take place, there can be no hope, as the abscess will infallibly burst into the cavity of the abdomen.

Gastritis.

The signs of the *gastritis* are, most acute pain, always increased upon swallowing even the milder kinds of drink; tension at the pit of the stomach; inexpressible anxiety; great internal heat, like burning; constant retching, and frequent hiccup; the pulse small, quick, and intermitting.

The treatment will depend much on knowing the true source of the disease, which will constitute so many different varieties.

1. *Gastritis exanthematica.* The repulsion of acrid matters, or sudden striking in of febrile eruptions, have sometimes been observed to excite an inflammation of the stomach; and, the case will speedily prove mortal, if these cannot be recalled to the surface of the body by the immediate application of blisters. In subjects who have died in these circumstances, the stomach has been found mortified in different parts.

M m m

2. *Gastritis*

2. *Gastritis à veneno.* If poison has been swallowed, we must in the first place endeavour to find out of what kind it has been; and, if not too late, by the exhibition of an emetic, empty the stomach completely of the noxious matters, and then fill the whole track of the alimentary canal with sheathing liquids. The drinking a large quantity of new milk, or of fresh butter melted, has been known to preserve life in cases where arsenic has happened to be the poisonous substance taken.

The antidote for corrosive sublimate is a weak solution of any mild fixed alkaline salt; about one ounce of salt of tartar, salt of wormwood, or common pearl ashes, is to be dissolved in a gallon of water, and the stomach filled with the solution; which, if an inflammation has not already taken place, will prevent it, by decomposing the sublimate; for the marine acid of that composition will quit the mercury to join with the alkali, and thus its corrosive quality be destroyed.

3. *Gastritis traumatica.* In the gastritis from hurts or wounds, the management must be formed on the general antiphlogistic scheme; repeated bleedings, frequent clysters, stuping the epigastric region, and softening emulsions.

When a real inflammation once takes place in such a sensible part as the stomach, there must be very little chance for the patient's escape; for, unless the inflammation can be resolved in the very beginning, it almost constantly ends in a mortification; there being scarcely any room for suppuration, the part affected not having enough of the loose cellular texture, to admit that way of termination.

Enteritis.

The same thing may be said of the *enteritis*; for though there is nothing more common than to hear people talk of inflammations of the intestines, and of these inflammations being cured, yet, all such

Histories may be justly doubted ; what pass for inflammations here, are, for the most part, some of the varieties of colic, which perhaps have no mixture of inflammation.

A tension of the belly, and swelling, with great internal pain, and such an external foreness about the umbilical region as can scarcely bear the touch, accompanied with thirst and heat, great weakness, and a quick but small pulse, may serve to assure us that the intestines are in a state of inflammation.

The sources of this inflammation, being various, render it necessary to distinguish the varieties.

1. *Enteritis dysenterica.* In the more violent cases of dysentery, the intestines are apt to inflame, being irritated by the great sharpness of the fluid matters, continually running through them, and the scene is generally closed by a mortification.

2. *Enteritis herniosa.* Ruptures are a frequent source of inflammation in the intestines; for which reason, when called in to any of these cases, we are always to be very accurate in our inquiries concerning this matter; so that the rupture, if any be found, may be properly taken care of, and, if possible, the intestine returned to its natural situation; if not remedied in time, a vomiting of excrementitious matters will supervene, and produce the enteritis iliaca, or iliac-passion.

A complete stoppage of the intestines from any other cause will be followed by an inflammation, and all its necessary consequences; therefore, in these cases, our most active endeavours are to be used to procure a free passage through the bowels; but the methods for answering this purpose shall be particularly laid down when we come to treat of the different species of colic.

3. *Enteritis à veneno.* When poisons, or the like caustic substances, have been swallowed, and pass on to the intestines, we are to

manage according to what has been already mentioned with respect to the gastritis, which proceeds from these sources.

If the means used to resolve the inflammation, let it proceed from what source soever, do not succeed in the course of a very few hours, a gangrene will ensue, and soon carry off the patient. People who die of a mortification in the intestines, feel no distress for ten or twelve hours before death, as the pain ceases entirely by that time, and they sink away, perfectly in their senses to the last minute: the sinking of the pulse, the pale ghastly look, and the cold clammy sweats, all teach us to foretel the fatal event, which the patients themselves are seldom aware of, but, from the ceasing of the pain, are apt to conclude themselves in a way of recovery.

Mesenteritis.

The mesentery, and the glands dispersed through it, are often the seat of an inflammation, particularly in scrofulous habits, which frequently end in abscesses, and give rise to a tabes, as supplying a source of purulent matter, which is taken up by both kinds of absorbents; but it must be next to impossible to distinguish precisely when either an inflammation or a suppuration hath taken place in the mesentery, or glands belonging to it, the parts affected being so deeply seated, and not endued with much sensibility.

Nephritis.

The *nephritis* will be known from the acute pain and heat in the small of the back, urine high-coloured, and small in quantity, retching to vomit, retraction of one of the testes, and a numbness of the leg and thigh, joined to the common febrile symptoms that attend all other inflammations. It is distinguished from the lumbago by the vomiting, retraction of the testicle, numbness, and by the patient's being able to raise himself up without exciting severe pain.

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The most frequent source of the nephritis is the stone or gravel. In these cases the pain is greatly increased by the patient's being jolted in a carriage or on horseback, the urine is often bloody, gravelly, and mixed with mucus. The remedies here are, bleeding, nitrosc medicines, warm bathing, softening emulsions, oily draughts, and emollient clysters, with turpentine dissolved in the yolk of an egg, and a few drops of the tinctura thebaica; all with a view to relax the fibres, and allow the bits of gravel or stone to descend along the ureter, and get into the bladder, for then the pain and other symptoms will cease, at least for a time. (See further under the article *Lithiasis*.)

But these calculous cases do not require such plentiful bleeding as that variety of the nephritis wherein the inflammation springs from hard riding, a strain, or some other external injury; for this demands large and repeated bleedings, together with the quieting, relaxing, and cooling remedies already mentioned.

A suppuration is often formed in the kidneys; and we may conclude that it is so, when, notwithstanding the abatement of the pain, we still find the patient complain of a sense of weight in the lumbar region, while at the same time there are frequent shiverings, succeeded by hot fits, and the urine, from being red and without sediment, comes to be whitish and turbid.

As the purulent matter in these cases is speedily washed off, and carried away by the urine, it is not so liable to be absorbed; and hence it is, that people have been known to labour for many years under an ulcer of the kidneys, without being much affected by the hectic fever. Goat's whey, or those mineral waters which are impregnated with the fossile alcali, together with balsams that do not heat, such as the capivi, or balsamum canadense, are the courses from whence we are to expect relief.

Cystitis.

Cystitis.

An *inflammation of the bladder* is distinguished by the great pain and tension in the region of the pubis, a difficulty or total stoppage in making urine, accompanied with a frequent needing or tenesmus, and the other general symptoms of heat, thirst, &c. This is brought on either by sharp stones irritating the coats of the bladder, by taking cantharides, or frequent introduction of the catheter.

The scheme of treatment here is the very same with that which is to be pursued in the nephritis, therefore need not be repeated.

The *hysteritis* is reserved for the third class.

Here we shall add a table, shewing at one view the different species and varieties of inflammations.

GENERAL TABLE OF INFLAMMATIONS.

GENERA.	SPECIES.	VARIETIES.
I. External inflammations.	1. Phlegmon.	
	2. Erysipelas.	
	3. Boil.	
	4. Carbuncle.	
	5. Ophthalmy.	
	6. Quinsy.	Angina tonsillaris.
		——— trachealis.
		Suffocatio stridula. Croup.
		Angina maxillaris.
II. Internal inflammations.	1. Phrenitis.	
	2. Otitis.	

GENERA.	SPECIES.	VARIETIES.
Internal inflammations.		
	3. Carditis.	
	4. Pleuritis.	Pleuritis simplex. ——— complicata.
	5. Peripneumonia.	Peripneumonia simplex. ————— complicata.
	6. Paraphranitis.	
	7. Hepatitis.	
	8. Splenitis.	
	9. Epiploitis.	
	10. Gastritis.	Gastritis exanthematica. ——— à veneno. ——— traumatica.
	11. Enteritis.	Enteritis dysenterica. ——— herniosa. ——— à veneno.
	12. Mesenteritis.	
	13. Nephritis.	
	14. Cystitis.	

INFLAMMATIONS

VARIETIES

PRINCIPLES

GENERAL

General inflammation

1. Acute

2. Chronic

3. Suppurative

4. Catarrhal

5. Hemorrhagic

6. Gangrenous

7. Necrotic

8. Ulcerative

9. Stenosing

10. Stricture

11. Fistula

12. Abscess

13. Empyema

14. Pyothorax

15. Peritonitis

16. Pleurisy

17. Pneumonia

18. Bronchitis

19. Asthma

20. Emphysema

21. Phthisis

22. Tuberculosis

23. Cancer

24. Syphilis

25. Gout

26. Rheumatism

27. Neuralgia

28. Hysteria

29. Epilepsy

30. Mania

31. Melancholia

32. Dementia

33. Paranoia

34. Schizophrenia

35. Psychosis

36. Neurosis

37. Psychoneurosis

38. Psychosomatic

39. Somatization

40. Conversion

41. Hysterical blindness

42. Hysterical deafness

43. Hysterical paralysis

44. Hysterical contracture

45. Hysterical anesthesia

46. Hysterical hyperesthesia

47. Hysterical tremor

48. Hysterical convulsions

49. Hysterical cataplexy

50. Hysterical stupor

51. Hysterical coma

52. Hysterical death

53. Hysterical resurrection

54. Hysterical pregnancy

55. Hysterical lactation

56. Hysterical menstruation

57. Hysterical menopause

58. Hysterical amenorrhea

59. Hysterical dysmenorrhea

60. Hysterical leukorrhea

61. Hysterical vaginitis

62. Hysterical cervicitis

63. Hysterical colpitis

64. Hysterical proctitis

65. Hysterical hemorrhoids

66. Hysterical constipation

67. Hysterical diarrhea

68. Hysterical dyspepsia

69. Hysterical gastritis

70. Hysterical enteritis

71. Hysterical colitis

72. Hysterical proctitis

73. Hysterical rectitis

74. Hysterical sigmoiditis

75. Hysterical ileitis

76. Hysterical cecitis

77. Hysterical appendicitis

78. Hysterical diverticulitis

79. Hysterical fistula

80. Hysterical abscess

81. Hysterical empyema

82. Hysterical pyothorax

83. Hysterical peritonitis

84. Hysterical pleurisy

85. Hysterical pneumonia

86. Hysterical bronchitis

87. Hysterical asthma

88. Hysterical emphysema

89. Hysterical phthisis

90. Hysterical tuberculosis

91. Hysterical cancer

92. Hysterical syphilis

93. Hysterical gout

94. Hysterical rheumatism

95. Hysterical neuralgia

96. Hysterical hysteria

97. Hysterical epilepsy

98. Hysterical mania

99. Hysterical melancholia

100. Hysterical dementia

101. Hysterical paranoia

102. Hysterical schizophrenia

103. Hysterical psychosis

104. Hysterical neurosis

105. Hysterical psychoneurosis

106. Hysterical psychosomatic

107. Hysterical somatization

108. Hysterical conversion

109. Hysterical hysterical blindness

110. Hysterical hysterical deafness

111. Hysterical hysterical paralysis

112. Hysterical hysterical contracture

113. Hysterical hysterical anesthesia

114. Hysterical hysterical hyperesthesia

115. Hysterical hysterical tremor

116. Hysterical hysterical convulsions

117. Hysterical hysterical cataplexy

118. Hysterical hysterical stupor

119. Hysterical hysterical coma

120. Hysterical hysterical death

121. Hysterical hysterical resurrection

122. Hysterical hysterical pregnancy

123. Hysterical hysterical lactation

124. Hysterical hysterical menstruation

125. Hysterical hysterical menopause

126. Hysterical hysterical amenorrhea

127. Hysterical hysterical dysmenorrhea

128. Hysterical hysterical leukorrhea

129. Hysterical hysterical vaginitis

130. Hysterical hysterical cervicitis

131. Hysterical hysterical colpitis

132. Hysterical hysterical proctitis

133. Hysterical hysterical rectitis

134. Hysterical hysterical sigmoiditis

135. Hysterical hysterical ileitis

136. Hysterical hysterical cecitis

137. Hysterical hysterical appendicitis

138. Hysterical hysterical diverticulitis

139. Hysterical hysterical fistula

140. Hysterical hysterical abscess

141. Hysterical hysterical empyema

142. Hysterical hysterical pyothorax

143. Hysterical hysterical peritonitis

144. Hysterical hysterical pleurisy

145. Hysterical hysterical pneumonia

146. Hysterical hysterical bronchitis

147. Hysterical hysterical asthma

148. Hysterical hysterical emphysema

149. Hysterical hysterical phthisis

150. Hysterical hysterical tuberculosis

151. Hysterical hysterical cancer

152. Hysterical hysterical syphilis

153. Hysterical hysterical gout

154. Hysterical hysterical rheumatism

155. Hysterical hysterical neuralgia

156. Hysterical hysterical hysteria

157. Hysterical hysterical epilepsy

158. Hysterical hysterical mania

159. Hysterical hysterical melancholia

160. Hysterical hysterical dementia

161. Hysterical hysterical paranoia

162. Hysterical hysterical schizophrenia

163. Hysterical hysterical psychosis

164. Hysterical hysterical neurosis

165. Hysterical hysterical psychoneurosis

166. Hysterical hysterical psychosomatic

167. Hysterical hysterical somatization

168. Hysterical hysterical conversion

169. Hysterical hysterical hysterical blindness

170. Hysterical hysterical hysterical deafness

171. Hysterical hysterical hysterical paralysis

172. Hysterical hysterical hysterical contracture

173. Hysterical hysterical hysterical anesthesia

174. Hysterical hysterical hysterical hyperesthesia

175. Hysterical hysterical hysterical tremor

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A

METHODICAL INTRODUCTION
TO THE
PRACTICE of PHYSIC.

B O O K III.

F L U X E S.

C H A P. I.

General Indications for the cure of Fluxes.

IN the cure of fluxes, as well as in that of inflammations, there are certain general indications, regardless of the particular species.

It was formerly shewn, that morbid discharges depend on two conjunct causes, and that sometimes one of these causes shall predominate, and sometimes the other.

Whenever we find, from the full and frequent pulse, and from the concurrent symptoms of excessive heat and pain, that the predominant cause of a flux is increase of circulating force, our chief endeavour should be to abate this intenseness of motion.

But before we use any very active remedies, we are always to consider whether the flux may not have a salutary tendency either in relieving from too great fulness, or in discharging some offensive matter, which, by its stay, might create a more distressing and dangerous disease.

By observing how the patient bears the discharge, and by informing ourselves of the antecedent causes, we shall generally be enabled

to form a judgment, when it is proper to interpose, and when it will be safer to leave things entirely to Nature.

When it is proper to interpose, and the plain indications are to lessen the force of the circulation, we are to have recourse to nearly the same method of treatment, as was laid down for the general management of inflammations, when we want to procure a resolution; namely, bleeding, spare diet, and sedative medicines: but as all active fluxes are brought on by irritation, we are at the same time to endeavour the removal of the acrid matter, carrying it out of the body, when that is practicable, as is often the case in alvine-fluxes; or correcting it with proper alteratives, when we cannot dislodge it by the use of emetics or cathartics; or else render the living solids less susceptible of the impression of the acrimony, by the use of opiates.

In all fluxes accompanied with spasmodic constriction, which we may always know from the dryness of the skin, the thirst, oppression, sickness, and small quantity of urine, we can never hope to conquer the disease until the circulation throughout the whole circumference of the vascular system shall be rendered equable and free; and therefore, in these cases, the most certain and effectual remedies are small doses of the emetic medicines; these, as hath been already shewn, when given, so as to raise only nausea or gentle vomiting, possess remarkable power in determining a flow to the skin, and producing equable circulation; and hence it is, that ipecacoan and the vitrum antimonii ceratum have obtained such credit in the cure of dysenteries, and in many cases of hæmorrhage.

These are the general indications, when we are persuaded that the flux, of whatever species it be, depends more upon increase of momentum in the fluids, than on weakness or destruction of texture in the solids.

But when the last-mentioned cause is the one that predominates, and the flux is of that sort termed Passive, then our practice must be reversed;

reversed; we are to aim at strengthening, bracing up, and constringing the weak and relaxed fibres and sphincters; or endeavour to repair the waste, and agglutinate the solids, when these are eroded, or their texture divided.

For these purposes we must have recourse to nourishing diet, with the temperate use of wine and moderate exercise, aided by analeptic medicines, and those of the austere astringent kind; or to the different balsams and the cold bath, severally adapted to the particular circumstances of the case.

C H A P. II.

Different Species of Alvine Fluxes distinguished. Description, and Method of Treatment of the Cholera.

SO much for the general scheme of treatment. Let us now proceed to distinguish the different species of morbid discharge, and point out their several methods of cure.

Fluxes are divided into three genera; the first of which is the *alvine flux*.

The whole alimentary canal is endowed with such exquisite sensibility, that the application of every kind of matter, which would injure health by remaining in the body, is soon felt, and efforts made for expelling it either upwards or downwards; hence the discharges, in consequence of this extraordinary action of the stomach and intestines, are never to be held as diseases, but when they are either so violent, or of such long continuance, as to produce notable degrees of pain, sickness, weakness, or some other distressing symptom.

When the case is so circumstanced as to oblige us to consider the discharge as morbid, we are to take our measures according to the species of the disease.

Alvine fluxes are distinguishable into the following species:

N n n 2

1. *Cholera,*

1. *Cholera*; which is a most violent vomiting and purging of bilious or acrid matters, accompanied with great sickness, griping, weakness, and very often cramps in the lower extremities.

2. *Dysentery*; wherein there is a violent purging of feculent and slimy matters, oftentimes mixed with blood, but always attended with severe griping, nausea, tenesmus, and different degrees of fever.

3. *Diarrhœa*; which is a frequent purging of various liquid matters, without violent degrees of pain or sickness.

4. *Lienteria*; or a frequent purging of liquid matters, with the alimentary substances, which appear to have suffered but little change from the digestive organs.

5. *Cæliaca*, or white flux; a frequent purging of whitish fluid, supposed to consist chiefly of chyle.

6. *Hepatirrhœa*, or hepatic flux; a frequent purging of bloody serum, supposed to be derived from the liver, without violent pain, great sickness, or sudden loss of strength.

7. *Melena*, or black flux; a frequent purging of liquid blackish matter, without putrid fœtor, sudden weakness, or notable degrees of pain and nausea.

The four last-mentioned species are but rarely met with, but the first three are common diseases, and therefore require to be particularly considered.

Cholera.

The *cholera* is a disease which oftner occurs in autumn than any other quarter of the year, more especially if a very hot and dry summer has preceded: it makes its attack very suddenly, the patient being seized all at once with violent vomiting and purging, which are generally ascribed to somewhat taken in the last meal, which is supposed to have disagreed with the stomach. The matters thrown off both ways are various in their appearance; yellow, green, brown, and sometimes almost black.

A most severe griping, and heavy sickness, accompany the discharges; the pulse at first is full, strong, and quick, but soon sinks, and the patient becomes extremely weak and dejected.

In very violent degrees of the cholera, it is not uncommon for the sick persons to purge near a hundred times in the compass of five or six hours, and, in this short space of time, to be so reduced and emaciated, and the countenance so totally changed, that their intimate friends can scarcely know them. In these cases, it is also usual to be seized with cramps in the limbs, succeeded by a hiccup and general convulsions, with cold sweats and frequent swooning. When the disease proves fatal, the patient either goes off in one of the fainting fits, or expires in convulsions.

We are to distinguish the true spontaneous cholera from the vomiting and purging which ensue from a surfeit, or from having swallowed any thing of a poisonous quality.

In the disease now under consideration, our first endeavours must be to dilute, obtund, and wash off the acrid matters, by large and frequently repeated draughts of thin broth, made of chicken, beef, or mutton, well cleared from fat; if broth cannot be readily got, milk and warm water, new-churned butter-milk, if at hand, decoction of rice or barley; or, which is preferable to all of these drinks, an infusion of toasted oaten bread, or of oaten meal made brown like coffee, and brewed in the same manner. This makes a very palatable drink, and will be generally found to lie on the stomach.

If the patient be of a full habit, and the pulse be found strong and hard, we must bleed instantly, and shall sometimes find that this alone will stop the vomiting.

If the pains in the stomach and belly be very severe, putting the patient into a semicupium, or at least stuping the belly with flannels wrung out of warm spirituous fomentations will be apt to give ease.

If the vomiting should continue after the stomach appears to be completely washed by the repeated affusion of mild and sheathing drinks, we must try the antiemetic draughts of sal absinthii and succus limonum; or ten grains of the powder of radix columba, in a spoonful of cinnamon or nutmeg-water; apply cataplasms of mithridate, or of the leaves of common mint boiled in claret, to the wrists and pit of the stomach, and give for drink mint-tea, or a light infusion of cloves or cinnamon.

For the most part, after ten or twelve hours, the stomach settles, and the purging begins to abate; then it will be proper to give an opiate, in order to allay the remaining disturbance in both nervous and vascular systems: the tinctura thebaica, in some grateful and well-adapted vehicle; or, if liquids do not agree, the extractum thebaicum in a proper dose.

The rest procured by opiates usually removes all complaints, excepting the nausea and weakness.

On the second day, if there be no return of the vomiting or purging, there will be no necessity for any thing pharmaceutical, excepting the opiate; but, on the third or fourth day, it will be proper to give a dose of rhubarb, and after its operation, an agreeable paregoric draught.

After this, the patient may gradually return to the usual course of diet, and recruit the strength by proper nourishment, aided by riding.

If the appetite be slow in returning, ten or twelve drops of elixir vitrioli acidum, taken in the forenoon in some light bitter infusion, will be found of great service.

The cholera is sometimes connected with the intermittent fevers that prevail in autumn; and has been observed so far to predominate above the febrile symptoms as to deserve the appellation of *cholera intermittens*.

The cure in these cases is accomplished by large doses of the cortex, given during the intervals of the fits of vomiting and purging.

Violent vomiting and purging sometimes arise from worms, and constitute the cholera verminosa.

The repulsion of arthritic matter has also been followed by like symptoms, and when this case happens, death can scarcely fail to ensue. The famous Sydenham was carried off in this manner: (so says Sauvages, though it does not appear on what authority; as this circumstance is not mentioned in the life prefixed to Sydenham's works by his translator, Dr. Swan, nor in that which is written by Dr. Birch.)

C H A P. III.

Description, and Method of Treatment of the Dysentery.

THE *dysentery* is a frequent disease, and was formerly held as endemic in Ireland; but during the course of the present century, it does not appear to be more common in this kingdom than in Great Britain. In all marshy countries, the dysentery is apt to ensue after hot and dry summers; for, in such situations, and during such weather, great store of putrid vapours is raised from the earth, and suspended in the higher parts of the atmosphere while the heat continues, but when the cold evenings of autumn come on, the miasmata fall down, and are productive of many diseases.

The dysentery is also apt to become epidemic after seasons wherein the fruits of the earth have been spoiled, or not duly ripened, and when people have been obliged to make use of bread made of damaged corn or bad flour, or to feed on half-rotten flesh or fish; and it often arises, like the malignant fevers formerly described, in close dirty places, where there are great numbers of people crowded together.

That variety of the dysentery which proceeds from an acrimony of the highly putrefactive kind, and which is termed *Dysenteria Putrida*, is extremely fatal and very infectious.

The

The attack begins with a general coldness, that lasts for some hours, during which great weakness, sickness, and a giddiness of the head come on; the patient turns pale, and feels several sharp pains in the belly before the flux begins, the pulse all this while being small, and little, if at all, feverish. The first stools are often thin and yellowish, but in a little time become viscid, slimy, and generally tinged with blood. If the blood comes in streaks, we conclude that it proceeds from openings of the small vessels at the end of the rectum, while a more intimate mixture may assure us that it flows from a higher source. This hæmorrhage, which is apt to alarm the most, is the symptom least to be dreaded, as the quantity of blood that is lost is but inconsiderable; for there is seldom any erosion or rupture of the vessels, but only a dilatation of their pores, and open extremities.

The stools are all along distinguished by a peculiar smell, different from what is common and natural; this, though always offensive, is not so extremely bad at first, but toward the end of the disease; and in cases that turn out mortal, the fetor is cadaverous and intolerable.

The pains increase before each of the discharges, which grow very frequent, ten, twelve, or fifteen in an hour perhaps, accompanied with a perpetual tenesmus, forcing down the rectum, which often mortifies, and hastens on the fate of the unhappy patient; who otherwise might linger till an inflammation takes place, which will soon run on to a gangrene, and that will put an end to the misery.

This is a description of the most violent degree of dysentery, arising from an acrimony that is highly putrefactive; but where the humours are not so far distempered, the degrees of weakness, nausea, and dejection, are not so great, the stools not so numerous, nor attended with such severe pain.

Another variety of dysentery, termed *Inflammatoria*, is allied to the inflammatory fever; as being accompanied with great heat and thirst, and violent pain in the head and loins, as well as in the abdomen, the pulse being quick, hard, and full.

In

In general it is proper to begin the cure of the dysentery by taking away some blood, but more especially in such cases as are attended with inflammatory symptoms; but unless the fever be kept up by some inflammation not peculiar to the disease, repeated bleeding is not only unnecessary but hurtful; and in weakly habits, or where the constitution of the disease is truly putrefactive, ought to be wholly omitted.

After the bleeding, for adults of a robust frame we may order twelve grains of ipecacoan, and three grains of emetic tartar, to be divided into three equal parts, and direct one to be taken immediately, without drinking any thing after it; the second in two hours more; and the third in two hours after that; and then allow the patients to drink freely of weak beef or chicken-broth, to encourage the operation; after which a paregoric will be necessary.

On the next day, if the medicine has not wrought much downwards, it will be proper to give a bolus of a scruple or twenty-five grains of rhubarb, with two or three grains of calomel; but, if the operation of the ipecacoan and emetic tartar happens to be pretty smart, and the patient seems fatigued, it will be best not to order any thing the second day, except in the evening, when it will be proper to give one grain of opium, and three or four of ipecacoan made into a bolus. An opiate is also to be given at the close of the second day, if the patient shall have taken the rhubarb and calomel.

If by these means the sharp matter appears to be tolerably well cleared off, and the pain, sickness, and thirst cease to be distressing, there will be no occasion to give any medicine whatever on the third day; but, should the griping and purging continue, we must now begin with the ipecacoan in small doses, of a grain or two every third or fourth hour, according to the patient's age or constitution.

Whenever this medicine brings on such degrees of nausea as threaten vomiting, we must desist till the stomach settles, and then

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begin

begin again. In the evenings a paregoric is always requisite; and if the stools be remarkably slimy and offensive, we must every second or third day give a dose of rhubarb, with a grain or two of calomel: thus we are to go on, intermixing opiates and the ipecacoan in small doses, until the circulation shall become equable and free, and the flow of acrid humours be diverted from the intestines; which will be known from the quiet equable pulse, and from the cessation of the griping and tenesmus, as well as from the appearance of the stools; which, though loose and frequent, will now be found of a more natural smell and colour, and mixed with less slime.

But if, notwithstanding all our attention, the disease shall be found not to abate of its violence, and the stools continue as frequent, as slimy, and accompanied with as severe griping and tenesmus as at first, we may justly apprehend a fatal termination; though we must still persist in our endeavours to procure relief, by fomenting the belly, and throwing up anodyne clysters made of milk, broth, or decoction of linseed, with a due proportion of starch, and from twenty to thirty drops of tinctura thebaica.

When a dysentery is complicated with a malignant putrid fever, a recovery can hardly be expected; but we are to try an infusion of bark and snake-root in claret, with a few drops of tinctura thebaica in each dose; and here, if they can be had, allow the patients to eat plentifully of ripe grapes, currants, cherries, or any other sort of subacid fruit that shall happen to be in season, and squeeze the juices of these fruits into the drink: for, notwithstanding a vulgar prejudice, that fruits are hurtful in the dysentery, or that they even cause the disease, attentive observation has shewn this notion not to be founded in truth.

Dr. Tissot always made it a rule, in those seasons when dysenteries were most frequent, to eat little flesh-meat, but much fruit; and he affirms that he has never had the slightest attack of the disease; and

and that other physicians of his acquaintance, who use the like precautions, are equally free from the infection.

He also relates, that he saw eleven patients in one house in the dysentery, nine of whom were tractable, eat fruit, and recovered. The grandmother, and one child, whom she loved particularly, and whom she managed after her own fashion, with burnt wine, oil, and spices, but no fruit, both died.

Tissot moreover informs us, that in the year 1751, when a putrid dysentery made terrible havock in Switzerland, he knew a family near Berne, consisting of eleven persons, ten of whom eat plentifully of fruit, and not one of them was seized with the distemper; but the coachman, who, being swayed by vulgar prejudice, would not taste any, was attacked in a violent degree. And in that same year, in the south of France, the dysentery having nearly destroyed a whole regiment of Swiss, the officers at length purchased the entire crop of several acres of vineyard, whither they carried the sick soldiers, and gathered the grapes for such as could not bear being taken to the field; those who were well, making this fruit the best part of their diet: after this, not one man died, nor were any more even attacked with the dysentery.

These histories, to which more might be added, are here mentioned, in order to remove the vulgar prejudice; and to shew that so far ought we to be from forbidding to eat plentifully of fresh vegetables, and particularly the subacid fruits, while putrid fevers and dysenteries are epidemic, that, on the contrary, people should be encouraged to take them freely; since both observation and experiments tell us, that those juices counteract the acrimony which produces these diseases.

As to the regimen in dysenteric cases, which are not accompanied with such evident and high degrees of putrefaction, it ought to

consist of rice-water, rice-jelly, salep, sago, decoctum album, (Ph. Lond.) decoctum cretaceum, (Ph. Edinb.); sometimes light chicken-broth, or beef-tea, but no solid flesh-meat. When flatulencies are particularly distressing, a tea-cupful of camomile-tea, or a light infusion of cinnamon, or aromatic cloves, will be found to give relief.

The vitrum antimonii ceratum, which was once so highly extolled, appears to have gone out of use on account of the extreme uncertainty of its operation, which, it must be confessed, is the fault of all antimonial preparations; nevertheless, in cases where the remedies proposed shall be found ineffectual, it ought to be tried: in general, small doses of ipecacoan, either alone or with a little emetic tartar, will seldom fail, if applied in time, in such cases as are capable of being relieved: for there are many of the epidemic dysenteries of so fatal a nature, and which proceed from so caustic an acrimony, that no medicine hitherto known has been found able to counteract its effects. The total loss of strength, the sinking of the pulse, the swelling of the abdomen, the blackish stools, and the cold clammy sweats, may assure us that every endeavour to save the patient must prove ineffectual.

Sauvages has thought proper to make no less than twenty species, as he terms them, of the dysentery; it is plain, however, from reading the descriptions, that such minuteness in regard to this disease is rather superfluous; for the chief distinctions that here seem necessary are, whether the circumstances and symptoms which indicate high degrees of putrefaction, or those which point out inflammation, prevail most; since an attention to these will shew when we ought to persist wholly in the antiseptic regimen, and when incline to the antiphlogistic scheme.

As the dysentery and diarrhoea are so nearly connected, and often run into each other, the method of treatment will be further considered in the following chapter.

C H A P.

CHAP. IV.

Diarrhœa; Lienteria; Celiaca; Hepatirrhœa; and Melœna.
Descriptions, and Methods of Treatment.

IN the *diarrhœa*, though the stools are often very frequent, and much larger than in the dysentery, yet they are not so slimy, not tinged with blood, (at least but very seldom,) nor accompanied with such degrees of nausea and weakness, and that severe griping and tenesmus, which distinguish the last mentioned disease.

The original spontaneous diarrhœa is to be distinguished from a looseness that is secondary, and supervenes a fever, or some other disease.

Of the diarrhœas which are to be considered as original diseases, we may distinguish the following varieties:

1. *Diarrhœa stercorosa*; wherein the discharges consist chiefly of excrementitious matters, and which usually arise in consequence of a surfeit, or eating somewhat that has proved indigestible and irritating to the bowels. A flux of this sort can hardly be considered as a disease, unless it either proves so violent, or continues so long, as to produce evident wasting and weakness. In such cases, the patients should in the first place drink plentifully of weak broth; that made from lean veal, or with a sheep's head, as being more gelatinous than mutton, beef, or chicken broth, is the most proper to sheath, and wash off every thing acrimonious or irritating.

If drinking freely of broth is not sufficient to remove what offends the bowels, a dose of rhubarb, with a grain or two of emetic tartar, will generally be found to answer every medical intention.

But should the purging continue, and much griping be super-added, then we must consider the case as tending to a dysentery; and begin with the small doses of ipecacoan, at night giving a paregoric.

When every thing acrid seems to be removed, if the flux should nevertheless continue, we may then proceed to check it by the decoctum ligni campechensis; or give a mixture of prepared chalk, in simple lime-water, flavoured with tincture of cinnamon, if it shall appear that an acid saburra subsists in the first passages.

2. *Diarrhœa biliosa*; which proceeds from an exuberance of bile, and may be known by the appearance of the stools, as being highly tintured with this fluid. This variety of diarrhœa is accompanied with nausea, bitter taste in the mouth, yellowness of the tongue, thirst, griping, and generally some degree of fever.

It is usually after a series of very hot weather that fluxes of this sort prevail; the scheme of management at first should consist in obtunding the sharpness of the bile, at the same time that we favour the discharge of it; hence thin water-gruel, or rice-water, will be a proper drink, and rather preferable to broths. And the solution of Rochelle salt, with a due proportion of emetic tartar, will be a better cathartic than rhubarb. If the purging should continue, recourse must be had to the small doses of ipecacoan, and other remedies already mentioned.

3. *Diarrhœa serosa*; wherein the stools consist chiefly of watery fluid. These serous fluxes are seldom accompanied with so much griping and nausea as the bilious. After having cleared the intestinal canal by rhubarb, joined with a due proportion of emetic tartar, if the flux shall persist, we are to begin with the small doses of ipecacoan, as directed in the other varieties: should this remedy fail, and there be no fever, nor any remains of griping or nausea, we may then safely proceed to the use of astringents.

Both serous and bilious fluxes are frequently to be considered only as secondary diseases.

A dysentery often terminates in a serous diarrhœa, and in these cases, it is sometimes found very difficult to put an end to the flux:

change of climate, or situation; exercise on horseback, or sailing, are of great use in helping to divert the flow of humours from the intestines. At the same time, the patients should keep themselves warmly clothed, and such medicines should be given as shall tend to increase the cutaneous discharges. Opium, joined with ipecacoan, will promote a diaphoresis, but must not be too often repeated, as this composition always leaves a general weakness behind it. As the decoctum ligni campechensis will sometimes be found too weak an astringent, in these cases we shall be obliged to try others that are more powerful. An ounce of galls, with as much starch, and a drachm of nutmeg, mixed and made into a powder, is a famous empirical remedy, and, where astringents can be given with safety, will be found of great use; the dose is from one scruple to two, twice or thrice a-day.

Lignum campechense, and cinnamon macerated in lime-water, forms a tincture which is both a grateful and powerful astringent. Simple lime-water, mixed with milk, will be a proper drink in these cases, and sometimes will be found sufficient, without further aid, to stop the looseness. The diet ought to consist of rice, boiled with milk, and flavoured with cinnamon; rice-jelly; sago, with red port; the lighter sorts of flesh-meat roasted, and taken without greasy sauces; cheese is allowable, but no crude or flatulent garden stuff.

The apoplexy, and some cases of palsy, as well as dropsy, are now and then carried off by a purging of watery humours. The like sort of looseness is also common toward the decline of the confluent small-pox, especially in younger subjects; whereas a plentiful discharge of saliva is peculiar to grown persons in these circumstances, and carries off the watery fluids that ought to be carried off by the pores of the skin.

A bilious diarrhoea is sometimes found to supervene and carry off the fomes of a remittent or intermittent fever; and, in continued fevers, when the stomach and intestines have not been well cleared
by

by an emetic at the commencement of the disease, a looseness will often succeed toward the decline. The management in regard of all these secondary fluxes must be regulated according to the nature of the original disease, and great caution is required lest the salutary tendency of the discharge be prevented by the improper use of astringents.

Worms will sometimes be found to cause a looseness. This happens chiefly in children, and may be known from the sliminess of the stools mixed with pieces of decayed worms. Rhubarb with calomel will be the principal remedy in the *diarrhœa verminosa*, as this variety of the disease is termed. Afterwards lime-water, either alone, or with a small quantity of rhubarb infused, will generally answer to strengthen the bowels, and prevent the new generation of worms.

The colliquative diarrhœa, that so often closes the scene in a hectic fever, is beyond the power of Art; clysters of milk, with a due proportion of thereaca andromachi, will sometimes check these purgings, and procure a temporary relief.

Celiaca, and Lienteria.

There have been so few cases of these species accurately described, that there is scarcely a foundation for considering them as any other than different varieties of inveterate diarrhœa: neither does it seem necessary, in forming the indications of cure; which, in these chronic cases, must be attempted on the scheme already laid down for the flux that succeeds a dysentery.

Hepatirrhœa.

A purging of bloody serum will sometimes succeed a putrid dysentery, and remain for a considerable time after the feverish symptoms have subsided, and the griping and tenesmus have ceased to torment the patient. The cure in such cases may be attempted by the lime-water, tincture of logwood, or the astringent powder of galls and starch, formerly mentioned.

The

The same species of flux is frequent in the putrid scurvy, when the disease is far advanced, and soon carries off the patient. It has also been observed to attend the paroxysm of a malignant intermittent fever; in which case, the cortex given largely in red wine must be the remedy.

In all these cases, the name of the disease is improper; but it sometimes happens, that a flux of bloody serum, or of purulent matter, shall in reality proceed from the liver, as may be inferred from the signs which shew this viscus to be affected.

In the *hepatirrhœa vera*, it will be proper to combine the milder balsams with the other remedies; and the cure must be conducted agreeably to the method proposed for the *tabes hepatica*.

In the hot countries, a flux of pure blood, without griping, is sometimes seen, coming from a higher source than the hæmorrhoidal vessels. Unless such a discharge as this is occasioned by a real plethora, it can hardly be expected that the disease will be cured; for if it proceeds from a dissolution of the blood, there seems but little room to hope for success. The cortex, however, with the vitriolic acid, ought to be tried.

Melena.

The spleen is supposed to be the source of that blackish humour which distinguishes this species of flux.

A scorbutic dissolution of the blood will also give rise to a black flux, which may be deemed an incurable case; but when there are no evidences of this general dissolution, nor distinguishing scorbutic symptoms present, the cure may be perhaps accomplished by the *tinctura rosarum*, or *decoctum ligni campechensis*, joined with the vitriolic acid; gentle doses of rhubarb, with a grain or two of emetic tartar, being occasionally interposed.

Black stools supervening a dysentery, putrid fever, or internal inflammation, may be held as a fatal sign; but these are easily distinguished from the discharges in the *melæna*, by the intolerable cadaverous fœtor.

C H A P. V.

Hæmorrhages; different Species, and Methods of Treatment.

IN the natural and healthy state, the blood has a certain viscosity, which prevents it from escaping through those pores in the coats of the arteries, that allow the oily and lymphatic fluid to ouze forth; and there is a mucus which adheres so closely to the interior surface of the blood-vessels, that it is perceivable long after the blood is washed out of them. Sauvages, who has made the experiment, assures us, that even after the tenth injection of pure water, the water, as it flows out, will be found to have a degree of slipperiness, as if soap were dissolved in it.

The greater the degrees of strength and firmness in the vascular texture, and the more the body is exercised, the more observable is the viscosity of the blood; but certain miasmata, and different species of acrimony, have the power of destroying this healthy crasis, and then the blood becomes liable to transude through the pores, or to flow into the lesser series of vessels, which naturally convey only pellucid lymph: we are to observe, however, that while the momentum or circulating force of the blood remains in equilibrio with the firmness of the vascular texture; or while the circulating force and tenacity of the blood are duly proportioned to each other, no hæmorrhage can happen.

When the increase of circulating force is such as to overcome the firmness of the vascular texture, and to force out blood which wants nothing of its natural viscosity, then ensues what the writers term an Active Hæmorrhage, and these are the only cases wherein bleeding is proper; but when there is a solution of continuity, or predominant relaxation in the vascular texture, or want of the proper degrees of tenacity in the blood, then the hæmorrhage which ensues is called a Passive one.

Discharges of blood, which proceed from internal causes, are usually preceded, like febrile diseases, by a general languor and oppression, accompanied with shivering and sensation of excessive cold; all which shew that there is a spasmodic constriction, rendering the circulation through the finer arteries difficult, and throwing the general mass of fluids in upon the center; if the constriction keeps up, and the vessels remain entire, a fever will take place; but if the coats of the vessels in particular places be so weak and yielding, that they are either ruptured, or suffer extraordinary dilatation of their pores and open extremities, then, instead of a fever, the blood pours out, and an hæmorrhage appears.

The hæmorrhages which we are to consider in this place, may be divided into five species:

- I. *Epistaxis*, or bleeding from the nose.
- II. *Hæmoptysis*, or spitting of blood.
- III. *Hæmatemesis*, or vomiting of blood.
- IV. *Hæmaturia*, or discharge of blood from the urethra. And,
- V. *Hæmorrhoids*, or discharge of blood from the anus.

(The menorrhagia and abortus are referred to the sexual diseases.)

I. *Epistaxis*. Bleeding from the nose is a frequent complaint, but seldom so violent as to require medical aid.

When we observe this species of hæmorrhage in an inflammatory fever, we are not to be solicitous about checking it, unless it becomes so excessive, or continues so long as to threaten the patient's life; because these fevers sometimes terminate by a bleeding at the nose. And, in general, bleedings at this part are seldom productive of much distress, so long as we find the pulse strong and full, while the cheeks and lips preserve their natural redness, and while the animal heat extends itself to the extremities of the body.

But when we find the pulse begin to grow small and weak, observe the lips and cheeks to turn pale, with coldness of the extremities, and the patient complains of weakness and nausea, then it will be necessary to prevent any further discharge.

There are common topical remedies used for checking a bleeding at the nose, such as laying a cold wet cloth to the nape of the neck, snuffing up vinegar, or a weak solution of white vitriol, putting up doffils into the nostrils rolled in the powder of bole armenac, with a little alum, or colcothar.

If the pulse and other circumstances shew, that there is a general intenseness of motion in the vascular system, and that the hæmorrhage is of that kind termed Active, then, bleeding from the arm, and nitrous medicines will be proper; but if it arises from weak vessels, or a dissolved state of the blood, then strengtheners and antiseptics must be the remedies, particularly the cortex, with the acid elixir of vitriol.

When the bleeding will not yield to the remedies already proposed, we must have recourse either to small doses of ipecacoan, or of some of the antimonial medicines, given so as to excite nausea and gentle vomiting.

After the bleeding shall be totally stopt, the patient is to be kept quiet; if costive, have a clyster injected, and after its operation, a paregoric.

Such hæmorrhages from the nose as are periodical, generally arise from the suppression of some natural discharge; young persons of plethoric habits, and people advanced in years, who live full, are often subject to bleedings from the nose, preceded by pain and heaviness of the head, and a tendency to some comatous disease. Such persons ought to make very light suppers, not lie with the head too warm, and take particular care that the belly be kept open.

Sauvages

Sauvages makes seven distinctions of this species of hæmorrhage; but there seems to be no necessity for considering more than three varieties of the epistaxis.

1. *Epistaxis critica*; when the hæmorrhage may generally be left to Nature.

2. *Epistaxis activa*; when bleeding, cooling regimen, and sedatives, are proper.

3. *Epistaxis passiva*; when strengtheners, astringents, or antiseptics, are required.

II. *Hæmoptysis*.

By the term *Hæmoptysis*, we are to understand those spittings of blood only which come from the lungs, independent of inflammation; because it is a frequent symptom in the pleurisy and peripneumony to spit blood.

It is easy to distinguish this disease by the appearance of the blood, as being florid, frothy, and coughed up in large mouthfuls; whereas, when blood comes only from some of the vessels in the fauces, it is in small quantity, dark coloured, and without froth, and when thrown up from the stomach, there is an effort to vomit.

The hæmoptysis is always to be considered as an alarming disease; and therefore it is the more necessary to distinguish the different varieties, since these will require some difference in the methods of treatment.

I. *Hæmoptysis accidentalis*; which happens in plethoric habits, from irregularities in diet or exercise, independent of any hereditary disposition, or acrimony in the blood.

II. *Hæmoptysis habitualis*; which happens to persons who have sharp juices and weak lungs, either native or acquired: these cases are either preceded or accompanied with different degrees of fever, and for the most part end in a phthisis.

III. *Hæmop-*

III. *Hæmoptysis periodica*. In constitutions where there are suppressions of the catamenia, or hæmorrhoidal discharge, periodical spittings of blood have been observed to supply the deficiencies.

IV. *Hæmoptysis traumatica*; which is occasioned by some wound or external injury.

In the cases of accidental hæmoptysis, there will be a necessity for repeated bleedings, in such quantities, and at such intervals as the particular exigencies shall be found to require; the diet must be entirely of the lightest kind; no solid flesh-meat, nor strong broths; the drink, emulsions with nitre; two-milk whey, barley-water, or Seltzer water with milk; absolute rest must be enjoined, and silence, since speaking would be apt to increase or excite the discharge. The belly must be kept open by clysters, and rest secured by opiates given in small doses at proper intervals.

But in constitutions where the crasis of the blood is previously injured, and where the lungs are habitually weak, we are not to expect such advantages from large and repeated bleedings; and the most likely means of checking the hæmorrhage will be, by small doses of ipecacoan, vitrum antimonii ceratum, or emetic tartar.

After the bleeding ceases, and it appears that there is no further extravasation into the pulmonary vesicles, which may be inferred from the total absence of pain, oppression, cough, and difficulty of breathing, we may then venture to give strengtheners; of which the cortex is the most effectual, in these, as well as in most other cases where we want to increase the firmness of the solids. A decoction, combined with some mild balsam, such as that of Tolu, will be the proper form.

But if, in spite of every endeavour, the spitting of blood should continue, or, though it ceases for a few hours, or perhaps days, should return, with the complaints of oppression and difficulty of breathing, attended with a teasing cough, and a quick hard pulse,

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we may then look on things as in a very unpromising situation, since it seldom happens otherwise than that a phthisis supervenes; and then the patient will have little else to depend on but to try courses of goat's whey in the proper season; Bristol or Mallow waters, Seltzer water, with asses' milk; pure country air, and moderate exercise by riding or sailing.

The periodical hæmoptysis can only be remedied by restoring the discharges, which happen to be suppressed, to their natural order; and the treatment of the traumatica must be conducted on the principles laid down for the accidentalis, only adapted to the particular nature of the injury which causes the spitting of blood.

There are other varieties distinguished by Sauvages, but the above seem sufficient for ordinary practice; for in all cases of hæmoptysis, as well as in every other discharge of blood, the principal distinctions are, whether the hæmorrhage be Active or Passive, since it is according to these that we are to regulate our conduct.

The bleedings from the gums, and other parts, termed Stomacace, arising from a putrefactive diathesis, are symptoms of a putrid scurvy, and do not require to be considered as a distinct species of disease: we therefore proceed to the

III. *Hæmatemesis*. Vomiting of blood is a much more frequent disease in women than in men, and usually arises from obstructed menstrua. When it happens in men, suppressions of the hæmorrhoidal discharge, or infarctions of the liver and spleen, are the common sources of the disease.

Large bleedings do not answer in cases of the hæmatemesis, as the pulse is apt to sink under them; they must therefore be made sparingly, and repeated according to the urgency of the case.

The belly must be kept open by clysters, or, if the stomach will retain it, by small doses of rhubarb; the drinks which are proper are,

are, light broths, with some grateful herb of the vulnerary and subastringent nature; such as the chervil ground-ivy, and plantain; as also weak tincture of roses, or plain water acidulated with spirit of vitriol, and then sweetened with fine sugar.

IV. *Hæmaturia*. When blood is discharged from the urethra in men, it may come from the vesiculæ feminalis and vessels of the prostate gland, as well as from the kidneys and bladder; and accordingly an hæmaturia has sometimes ensued in consequence of venereal excesses. The other causes of this species of hæmorrhage, and the most common, are stones or gravel lacerating the vessels in different places of the urinary passages: external injuries also may occasion bloody urine, such as falls, bruises, strains, or too hard riding; but sometimes an hæmaturia arises from a dissolution of the blood, or from great intenseness of motion in highly inflammatory fevers, particularly the small-pox; hence different varieties of the disease, of which Sauvages mentions no less than fifteen.

In cases where the habit is full, and there is a tendency to inflammation, we must bleed repeatedly, keep the bowels open by gentle saline purges, with manna, and order emulsions with gum arabic; but in such subjects as have the putrefactive diathesis, and whose blood appears in a dissolved state, then a decoction of the cortex, or a tincture of it in lime-water, tincture of roses, or alum-whey, will be more proper, in order to restrain the effusion; afterwards, an electuary of the cortex, with terra japonica, and balsam of Tolu, or capivi, will bid fair to secure the patient against a relapse, sufficient doses of rhubarb being occasionally interposed.

When this disease proceeds from calculi, the remedies, during the fit, are, softening and sheathing emulsions, with sweet spirit of nitre; afterwards a course of soap and lime-water, or of the soap-lees in veal-broth, or decoction of radix althææ, may be tried. But these remedies will be more fully considered, when we come to treat professedly of the stone.

When

When pissing of blood proceeds from a suppression of the hæmorrhoidal or menstrual discharges, if these cannot be restored to order, we must substitute repeated bleedings at proper intervals. In all cases we are to be cautious of using strong astringents; lest these, by suddenly constricting the passages, might detain the grumous blood.

There is a case recorded in the Medical Essays, where bloody urine was caused by a worm in the bladder.

V. *Hæmorrhoids*. The discharges of blood from the anus, are of two kinds; the one attended with very severe pain, tenesmus, and frequent purging of slimy matter; the other unaccompanied by such distressing symptoms: the former disease is a variety of the dysentery already described, the latter is what we are now to consider.

Piles, as they are vulgarly termed, are not always varicose enlargements of the hæmorrhoidal veins, but sometimes a kind of mariscæ or fungous excrescences, which sprout from the verge of the anus, and frequently ouze forth large quantities of blood; blood is also liable to come in considerable quantities from vessels within the rectum: but in either case, these discharges, while they continue moderate, are not to be considered as alarming, but rather an effort of nature to free the habit from superfluous blood; and hence medical assistance is not required, except in cases where the bleeding is either so violent, or of such long continuance, as to bring on wasting and weakness.

When it is necessary to check the hæmorrhoids, we may apply cloths to the anus or small of the back, wet in cold water or vinegar; and if these do not immediately answer, give a gentle emetic, either of ipecacuan or emetic tartar, and afterwards a paretic. But as all these hæmorrhoidal discharges are usually owing to obstructions in the liver, hindering the free circulation through the vena portarum, we may always expect relapses until such obstructions shall be

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removed;

removed; therefore, recourse must be had to mineral waters, particularly the Vahls or Seltzer, aided by compositions of soap and the aperient gums.

Immoderate and long continued grief is observed to give rise to the hæmorrhoids, as well as to profuse menstrual discharges; nothing answers in such cases so well as travelling, to see new objects, and divert the mind: therefore, when practicable, this ought to be enjoined: and, as a pharmaceutical remedy, a tincture of the cortex in lime-water *, flavoured with tincture of cinnamon, and warmed with compound spirit of lavender, will in general be found of excellent use.

C H A P. VI.

Humoral discharges. Ephidrosis and Diabetes. Methods of Treatment.

SO far with respect to hæmorrhages. The third genus of fluxes comprehends only two species:

I. The *ephidrosis*, or colliquative sweating. When profuse sweats are connected with a hectic, or other genus of fever, they are not to be considered as demanding peculiar methods of treatment; for until the fomes of the fever be corrected or expelled, we can never expect any lasting amendment: but sometimes cases occur, wherein there shall be profuse sweats, nightly wasting the body, and destroying the strength and appetite, without fever or any other evident cause. The cure is to be attempted by purgatives at proper inter-

* According to the following formula:

R. Corticis peruviani crassè pulverati, uncias duas;
Affunde Aq. calcis simplicis libras duas; macerentur per triduum, deinde tincturam cola; et adde,
Tinct. cinnamoni unciam,
Sp. lavendulæ comp. unciam dimidiam.
Capiat cochlearia quatuor ter, quaterve, de die.

vals,

vals, chalybeate waters, and stomachic strengtheners, with the cold bath, and moderate exercise.

In the very hot countries, it is a practice with the natives to rub their whole bodies with oil, as well as to use cold bathing, which no doubt tends to moderate the cutaneous discharge.

When colliquative sweating arises from a putrefactive dissolution of the blood, the remedies are, fresh vegetable juices, especially of the subacid kind, joined to the use of the cortex. The same course will be proper in those cases where sweats of different colours appear.

II. *Diabetes*; when the urine is discharged in such quantities as to bring on wasting, weakness, thirst, and loss of appetite.

This disease is very difficult to cure: alum-whey, made by throwing three drachms of powdered alum into two quarts of milk, taken to the quantity of four ounces thrice a-day, is recommended by Mead. Lime-water, in which a due proportion of oak-bark has been macerated, has been found of service: Bristol water has succeeded in some cases; in others, the chalybeate waters.

In the true diabetes, the urine has a sweetish smell and taste, as if honey or brown sugar had been dissolved in it; and if the urine be evaporated over a slow fire, it will leave a residuum, resembling a baked pudding, retaining the above-mentioned sweetish smell: this is termed by Sauvages, *Diabetes Anglicus*, as being supposed a frequent disease among the English, who are alleged to drink immoderately. He also mentions other varieties, as diabetes hystericus, diabetes arthriticus, and diabetes febriculosus. The first is found in hysterical constitutions, and consists in large discharges of limpid urine. The second is peculiar to persons worn out with the gout; during the paroxysms of pain, the urine is in small quantities, and turbid; but in the intervals the discharge is profuse and limpid, from the perspiration's becoming deficient. And the third variety was observed to supervene intermittent fevers in aged people.

The scheme in all these cases must be, to restore freedom to the cutaneous discharge; and, by that means, recal the watery fluids from running too much to the uropoietic organs; hence keeping the body warmly clothed will be of great use.

We shall here, as usual, subjoin a table, giving a general view of the third order of universal diseases.

GENERAL TABLE OF FLUXES.

GENERA.	SPECIES.	VARIETIES.
I. Alvine flux.	1. Cholera.	Cholera spontanea. ——— verminosa. ——— arthritica.
	2. Dysentery.	Dysentaria putrida. ——— inflammatoria.
	3. Diarrhœa.	Diarrhœa stercorosa. ——— biliosa. ——— ferosa. ——— verminosa.
	4. Lienteria.	
	5. Coeliaca.	
	6. Hepatirrhœa.	
	7. Melæna.	
II. Hæmorrhages.	1. Epistaxis.	Epistaxis critica. ——— activa. ——— passiva.

GENERA.
Hæmorrhages.

SPECIES.
2. Hæmoptysis.

VARIETIES.

Hæmoptysis accidentalis.
——— habituais.
——— periodica.
——— traumatica.

3. Hæmatemesis.
4. Hæmaturia.
5. Hæmorrhoids.

III. Humoral discharges.

1. Ephidrosis.
2. Diabetes.

Diabetes verus.
——— hyftericus.
——— arthriticus.
——— febricofus.

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Diabetes insipidus
Diabetes gestationis
Diabetes nervosus

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A

METHODICAL INTRODUCTION
TO THE
PRACTICE of PHYSIC.

BOOK IV.
PAINFUL DISEASES.

CHAP. I.

*Of the Gout; History of the Disease; different Species; and Methods
of Treatment.*

DR. Liger, a French physician, who has written a treatise on the *gout*, holds the morbid matter to be of a viscid nature; and this opinion he founds on the appearances in dissecting the joints of gouty subjects, which are observed to be loaded with a tough mucilage, adhering to the capsular ligaments and sheaths of the tendons: the urine also of gouty persons is observed to deposite a similar kind of slimy matter, termed by the ancients *Pituita Vitrea*; and the blood which is drawn during a fit of the gout has a whitish foam, like the pleuritic crust, but not altogether so compact.

But all these appearances may rather be deemed effects than causes of the gout, since they are only peculiar to subjects who have been long afflicted: Van Swieten thinks that this accumulation of viscid matter is owing to the frequent attacks of the disease, which render the vessels about the joints incapable of transmitting the earthy particles intended for nourishing the bones; this gross matter being
therefore

therefore retained, inspissates the synovia, and forms the chalky concretions: and the Baron agrees with his master Boerhaave in considering the arthritic acrimony as a most subtle species of matter, affecting the nervous fluid, or acting solely on the nervous system; and that it is in vain to search for it in the gross humours.

The extreme subtilty of the arthritic acrimony, and its not yielding to any alterative that has yet been discovered, has induced some writers to trace the gout from other sources than morbid matter; particularly a late writer *, who imagines that the disease consists in a closing up of the finer arteries; and that the pain, during the fit, arises from the effort which is made by the blood to force these open.

Liger, contrary to most other writers, looks on malt liquors as more apt to produce the gouty diathesis than wines; but he considers cyder as still more pernicious than ale; and, in confirmation, observes, that in Champaign and Burgundy, where they drink nothing but wine, the inhabitants are free from the gout; while the Normans and Flemings, whose principal drinks are cyder and malt liquors, are found to be very much afflicted.

Dr. Musgrave, who practised at Exeter, mentions Devonshire as full of gouty patients, which may be brought in evidence against the cyder, since that is the common drink in this and some adjoining counties: but with respect to malt liquors being more apt to produce the arthritic acrimony than wines, the observation certainly does not hold good, either in these countries, where it is rare to meet with a gouty patient among any but wine-drinkers, or in Holland, where, as Van Swieten tells us, the gout was scarcely known so long as the common drinks continued to be brewed from malt; but of late years, since wines have come into more general use, it is become a frequent disease.

It may be laid down in general, that high-living, feeding on what are termed Made-dishes, drinking freely, and neglect of bodily exercise,

* Dr. Caverhill.

are the things which mostly favour the production of arthritic acrimony; and that men of quick and lively imaginations are most disposed to the attacks of this disease, which seldom seizes them until they are arrived at, or rather past, the prime of life: the gout, however, is not altogether peculiar to this stage of life; nor is it a disease absolutely proper to the male sex; there being now and then cases seen, where young lads, or even girls, as well as women, are the patients.

There are few writers who surpass Sydenham in describing such diseases as he has treated of; and as he had the misfortune to labour under repeated attacks of the gout for more than thirty years, we may well believe that his description of this disease is perfectly accurate; therefore cannot do more for the reader's satisfaction than transcribe this author's account of the whole progress.

The gout generally attacks in cold weather, about the close of January or beginning of February; the patient, after having been troubled with much flatulency for some weeks, and an unusual sensation of a load and sickness at the stomach, with a general languor and heaviness, finds the appetite for food uncommonly keen the day preceding the fit, goes to bed, and sleeps quietly till about two in the morning, when he is awakened by a pain which usually seizes the great toe, but sometimes the heel, the calf of the leg, or ankle.

The pain resembles that of a dislocated bone, and is attended with a sensation as if water just warm was poured on the membranes of the part affected, and these symptoms are immediately succeeded by a chillness, shivering, and then a feverish heat. The chillness and shivering abate in proportion as the pain increases, which is mild in the beginning, but grows more violent every hour, and comes to its height toward evening, adapting itself to the numerous bones of the tarsus and metatarsus, the ligaments whereof it affects: sometimes resembling a tension or laceration of these ligaments; some-

times the gnawing of a dog; and sometimes a weight or constriction of the part affected, which becomes so exquisitely painful as not to endure the weight of the clothes, nor the shaking of the room from a person's walking briskly through it. The pain does not abate till two or three next morning; that is, in twenty-four hours from the beginning of the fit, when the patient, being in a breathing sweat, falls asleep, and at waking finds the pain much abated, and the whole of the part affected swelled; whereas before, only a remarkable fullness of the veins appeared. The next day, and for two or three days afterwards, if the arthritic acrimony be very abundant in the constitution, the part affected will continue to be pained, and the pain will increase toward evening, and at length will seize the other foot; and that which was first seized becomes quite easy, the weakness thereof soon vanishes, and it grows as strong as if it had never been affected.

Nevertheless, the gout affects the foot just seized, as it did the former, both in respect of the vehemence and duration of the pain; and sometimes when there is such a quantity of morbid matter in the beginning of the fit, that one foot is unable to contain it, it affects both at the same time with equal violence; though it is most common for the feet to be attacked in succession. After both feet have been attacked, the subsequent fits are not regular as to the time of seizure, nor as to duration; but the pain always increases in the evening, and remits toward morning.

What is commonly termed a Fit of the Gout, which goes off sooner or later according to the age and strength of the patient, is a series or succession of these smaller fits, gradually becoming milder and milder, till the whole of the arthritic matter expends itself, which in strong constitutions, and such as seldom have the gout, often happens in fourteen days; and in the aged, and those who have frequent returns of the disease, in two months; but in such as are
more:

more debilitated, whether from age or long continuance of the distemper; the fits do not cease until the summer advances, and the heat of the weather assists in expelling the morbid matter.

During the first fourteen days, the urine is high coloured, and after separation lets fall a kind of red gravelly sediment; not above a third part of the liquids taken are voided by urine, and the body is generally costive during this time.

The fit is accompanied throughout with loss of appetite, chillness of the whole body toward evening, and an heaviness and uneasiness of those parts that are not affected with the disease. When the fit is going off, a violent itching seizes the foot, especially between the toes, whence the skin peels off. The disease being over, the spirits become alert, the appetite grows keen, and the strength returns, sooner or later, as the immediately preceding fit hath been more or less severe; and in consequence of this, the following paroxysm comes on in a shorter or longer space of time; for, if the last fit proves very violent, the gout will not attack the patient at least till the same season of the year returns again.

This is the manner in which the gout appears while the paroxysms are regular; and when the disease has not been exasperated, nor its natural course interrupted by wrong management; and in cases where the quantity of morbid matter is moderate: but when the arthritic acrimony becomes so abundant that the substance of the body seems in a manner changed into supplies for the disease, and Nature is unable to expel it in the usual way, the symptoms will differ considerably from those just now mentioned. For, whereas the pain which hitherto has been only supposed as confined to the feet, which are the genuine seats of it, (for, whenever it attacks any other part, we may be assured either that the course of the disease is perverted, or that the natural strength is much impaired,) it now seizes the hands, wrists, elbows, knees, and other parts, no less severely than it did the

feet before. For sometimes it renders one or more of the fingers crooked, and motionless by degrees, and at length forms stoney concretions in the ligaments of the joints, not unlike bits of chalk or crab's eyes, being of the same soft and friable nature, and like these easily soluble in acids. Sometimes the morbid matter is thrown upon the elbows, and occasions a whitish swelling almost as large as an egg, which becomes gradually inflamed and red: sometimes it seizes the thigh, which seems to sustain a great weight, yet without much pain; and thence gaining the knee, attacks that part more violently, and the limbs are now so contracted and disabled, that the patient halts with pain. The urine resembles that which is made in the diabetes, being turbid and whitish, and the back and other parts break out in itchy eruptions. As the gout in the former instance did not usually come on until the decline of winter, and went off in two or three months, in the present case it continues the whole year, except two or three of the warmest summer months; and as the general paroxysm now continues much longer, so the particular fits, of which the general one is made up, rage for a longer time, and the other symptoms of sickness and loss of appetite are likewise exasperated: but at length, when the disease has continued for several years, and after many severe paroxysms, the pain gradually diminishes, and the patient sinks, rather from sickness than pain, which, in these latter paroxysms, though they be longer, is not near so violent as what was usually felt when the strength was but little impaired.

For the pain in this disease is a consequence of the efforts of Nature to expel the morbid matter; and though it be a disagreeable remedy, yet the sharper it proves, the sooner the fit terminates, and the longer and more perfect is the intermission.

Since a fit of the gout is a critical effort, regular practitioners are cautious how they interfere, lest the morbid matter be repelled and

thrown in upon some important organ; and therefore, in the height of the fit, they are extremely guarded, especially in respect to external applications and opiates, both of which impatient people might be tempted to make use of, in order to obtain relief from the present pain. The only external applications that are deemed allowable, being poultices of bread and milk, with a little saffron and yolks of eggs; or a solution of soap in warm water; or, in some cases, soap softened and spread thick on cloths: but in general it is held safest to abstain entirely from these or the like applications, and only wrap the part affected in new combed wool, or in the softest flannel, in order to promote perspiration, and thereby contribute to the dissipation of the morbid matter.

As to internals during the fit, a gentle emetic of infusion of camomile-flowers, or of carduus leaves, with some port-wine, if the patient be languid, will be of use in helping to unload the stomach in the beginning of the paroxysm; and during its continuance, in order to keep the belly open, we are either to direct clysters, or order a spoonful of tinctura sacra, with a few drops of spiritus volatilis aromaticus; or, if there be an acid in the stomach, with a drachm or two of magnesia alba.

Bleeding, in very full habits, and in the first attacks of the disease, will be advisable; but must never be practised in the weak, the aged, or those who have had repeated attacks of the gout; and, in general, Sydenham appears to have been extremely fearful of bleeding in any case.

Thus we may observe, that during the fit there is but little room for medicine, so long as the morbid matter remains deposited on the parts which are naturally destined for receiving it; but when it deserts the joints, and falls on some of the internal parts, then all our endeavours must be to recal and fix it.

We may know that the gout affects the head if the pain of the joints ceases, and the swelling disappears, while at the same time either
severe

severe headach, sleepiness, vertigo, tremor, convulsions, or delirium come on; or that it has seized the lungs, if great oppression, with cough and difficulty of breathing, ensue; or, lastly, the stomach, if vomiting, with extreme sickness, anxiety, and total loss of strength, and a sharp pain in the epigastric region, shall succeed.

In all these cases, which are extremely hazardous, and admit not the least delay, we must immediately endeavour to relieve the internal parts, and fix the pain again in the extremities. If the gout appears to have attacked the head, and the patient be of a full habit, we are to order bleeding proportioned to the degree of plethora; blisters to the insides of the thighs and legs; bathe the feet in hot wine, or some spirituous fomentation, in which some fresh-scraped horse-raddish root has been boiled, and common salt dissolved, and apply sinapisms to the feet.

If the lungs be affected, and there is danger of suffocation, we must also bleed, and apply the blisters, foment, and sinapisms just now mentioned.

But if the stomach be attacked, we are to give hot wine, boiled up with spices; or, which is reckoned better, especially in old subjects and hard drinkers, burnt brandy, with spices; or, if it be at hand, the dram called *Uquebaugh*: for Mead observes, that when the gout attacks the stomach, wine seems no stronger than water, and the stomach beomes so cold and torpid, that it easily bears the hottest liquors.

If these things shall chance to be thrown up by vomiting, we must give, along with the cordials, sixteen or twenty drops of *tinctura thebaica* at proper intervals.

Such are the principal means to be used during the paroxysms of the gout; but, in order to prevent returns, the scheme with regular practitioners is chiefly to strengthen the stomach, and prevent the first passages from being loaded with different kinds of *saburra*, since

it seems pretty evident, that the gout first takes its rise from a depravation of the digestive fluids; and hence it is, that aromatic bitters are the medicines principally insisted on, with a view to prevent the return of the gouty paroxysm.

The powder called the Duke of Portland's *, which was once much cried up, has been known to keep off the paroxysm; but then there have been instances where the medicine appeared, as it were, only to stifle the action of the morbid matter, which, being thus accumulated, has at length broke out with redoubled violence: for these powders, like all other bitters, by too long continued use, debilitate the powers of the digestive organs. In cases where the stomach appears loaded with viscid pituita, the fixed alkaline salts, or soap or lime-water, in which some of the aromatic bitters have been infused, promise to be of service. Soap is the great remedy with Liger, because he judges it capable of dissolving the mucilage, which he considers as the cause of the disease; and Lieutaud, another French writer of eminence, also highly commends this medicine: it is to be joined with bitters, such as the extract of gentian, and a small quantity of rhubarb or aloes.

In cases where the stomach is distressed by an acid, magnesia alba may be interposed with great advantage; but where digestion has been spoiled by frequent debauches, nothing answers so well as drinking the Bath water.

But proper diet and regimen are the only things that can really prevent the gout; for no medicines yet known have the power of making that thorough change in the constitution which is requisite

* It consists of equal parts of rad. gentian. and aristoloch. rotund. fol. chamædryos, et chamæpityos, et summitat. centaur. min. The dose is a drachm every morning, for the first three months; for the ensuing six, two scruples; and for the three remaining months, half a drachm. The second year requires only half a drachm every other day.

to destroy the seeds of the disease. A total abstinence from animal food, and fermented liquors, and living entirely on milk and vegetables, has been known to eradicate the gout; but this scheme cannot be put in practice by any but the youthful and vigorous; for such as are aged, or much broke down by the disease, cannot venture to live so low. Brisk exercise is of the utmost importance; and friction of the feet with flannels is of very great use in preventing or moderating the violence of the fit.

The gout being one of those diseases whose true nature is but little understood, it may seem of little importance to distinguish the species and varieties; but if we are to credit Sydenham, this circumstance ought to make physicians the more careful in noting even the smallest particularities, since that is the "shortest and best way of coming at the knowledge of the morbid causes which they are to encounter."

We may consider the gout as distinguishable into three species:

I. *Arthritis podagra, regularis, simplex*; the common regular gout, which invades in spring or autumn, and proceeds in the manner above described; whose paroxysms do not continue at most above one or two months, and leave the patient perfectly free from weakness, oppression, or sickness, during the intervals. The pain and swelling, while the fit lasts, being confined to the feet.

II. *Arthritis gonagra, seu chiragra, irregularis*; the irregular gout, wherein the pain flies about, and attacks the hands, knees, and elbows, whose paroxysms last sometimes the whole year, excepting the three warmest months in summer, leaving the patient lame or feeble, with but an indifferent appetite even during the intervals.

III. *Arthritis complicata*; wherein there are symptoms of other diseases, combined with those which particularly mark the gout; whence

I. The

1. The *arthritidis rheumatica*,
2. ——— *chlorotica*,
3. ——— *melancholica*,
4. ——— *scorbutica*,
5. ——— *syphilitica*,
6. ——— *asthmatica*,
7. ——— *rachialgica*,
8. ——— *exanthematica*,
9. ——— *rachitica*;

which may be all considered as varieties of the complicated gout.

The 1st, As being joined with a rheumatic acrimony.

2d, As supervening obstructed menstrua.

3d, Which seizes hypochondriac or vapourish people.

4th, When there is an eruption of those hot itchy pimples, usually termed scorbutic, shewing an unusual sharpness of the juices.

5th, When the venereal virus, having not been sufficiently eradicated, mixes itself with that which creates the gout; and causes the pain to rage with unusual violence during the night-season.

6th, When the fits of the gout and asthma seize the patient alternately; the breathing being free, while the joints are in pain, and vice versa.

7th, When the gout supervenes a nervous colic.

8th, When cutaneous eruptions of any kind, either acute or chronic, precede a fit of the gout.

9th, Wherein there is such a brittleness of the bones, that they can scarcely support the weight of the body without breaking.

C H A P. II.

Of the Rheumatism: History of the Disease; different Species and Varieties; with the Methods of Treatment.

THE *rheumatism* is, in appearance, so nearly allied to the gout, that they have been considered as one disease, especially by the early writers: attentive observation however shews, that they are distinct genera, and that the morbid matter, or rheumatic acrimony, is at least as different from the arthritic, as that which gives rise to the measles, is from what produces the small-pox.

The morbid matter in the rheumatism fixes on the muscles, together with their common membrane, and the tendons; whereas the arthritic acrimony is directed to the ligaments which connect the joints: what it is that constitutes the difference, or why the one species of acrimony should deposit itself in one place, and the other settle itself in another, are points of which we shall not attempt the explanation.

The suppression of natural discharges, the living in damp situations, or in new-built houses, neglect of exercise, and the striking in of cutaneous eruptions, are what usually give rise to the rheumatism; but the catching of cold, as it is called, is what for the most part immediately brings on the fit. Hence it is, that autumn and the beginning of winter are the seasons wherein rheumatic complaints are most frequent.

There is one species of rheumatism, attended by febrile symptoms, and which therefore may be termed *Acute*; and another, without fever, thence denominated *Chronic*.

The *acute* species generally affects such as are in the prime of life, and begins with a chillness and shivering, which are soon succeeded by heat, restlessness, thirst, and other concomitants of a fever.

In

In a day or two, or sometimes sooner, there arises an acute pain in some or other of the limbs; especially in the wrists, shoulders, and knees, and all up the fleshy parts of the arms and thighs: those pains generally fly from place to place, and leave a swelling and redness in the parts last affected. Sometimes one part is quite free from pain, while another is attacked; at other times, many parts are seized nearly at the same instant, and we shall sometimes see every joint affected at once. In this case the patients are in a very distressing situation, being incapable of moving, and dreading the assistance of the attendants, as they can scarcely admit of being touched without a sensible aggravation of the pains; and moreover are unable to bear even the weight of the bed-clothes, which must be arched over the limbs by proper contrivances.

The distemper, however, is often less violent, the fever being but moderate, and ceasing entirely when the pain begins, which is also confined to one or two places.

When called to a rheumatic case, we are to regulate our conduct according to the stage in which we find the disease: if it be recent, and the fever still in being, we are to bleed; and if the patient be of a full habit, and in the prime of life, repeat it at proper intervals, to two, three, or perhaps four times, according to the state of the pulse, and violence of the fever, which are always to be our guides, and not the appearance of the blood; for the blood is found to throw up to the surface the same kind of whitish scum or inflammatory crust that is found in the pleurisy and other inflammatory diseases, though not so viscid. Hence Sydenham and others have held the rheumatism as a true inflammation, and treated it accordingly, depending chiefly on repeated bleedings. And some people direct the bleedings to be repeated till this inflammatory crust shall disappear; but it has been already mentioned, that this is a rule we are never to be governed by, but always regulate our bleedings by the strength of the pulse, and by the apparent relief that they seem to

give. Therefore, in the rheumatism, if the patient be free from fever, or be of a delicate frame, and if we find the pulse begins to flag, notwithstanding the pains increase, we must withhold the lancet, and have recourse to some other means.

Immediately after having bled the patient, if he be of an athletic habit, we may begin with nitre, and give it in as large quantities as the stomach will bear. Dr. Brocklesby says, that thin water-gruel is the best vehicle, and he usually dissolved two drachms of nitre in a quart of gruel, which may be sweetened, if the patient chuses it, and a tea-cupful directed to be taken every second hour. If the stomach should reject the nitre, then we must substitute a palatable saline julep, and give it in large doses. But both the nitre and this julep will be rendered more efficacious by the addition of emetic tartar in a due proportion. These things will seldom fail to keep the bowels open; but if they should not, we must order clysters to be thrown up from time to time; or, if these cannot be given, cream of tartar, sal polychrest, or Rochelle salt with manna.

While the pains are extremely violent, they admit of no application; but whenever it is practicable to convey warm steams to the affected parts, it should be done; and when the patient can bear friction, we may direct a mixture of oil, vinegar, and spirit of hartshorn, to be rubbed in warm, and the part afterwards covered over with flannel. A semicupium, or entire bath of warm water, after the requisite bleedings, and emptying the intestines, frequently gives great relief. But we must always take care that the bath be not used until after sufficient bleeding.

The patient's diet all this while must be of the thin vegetable kind; barley-gruel with currants, roasted apples, and the like; fresh runnet-whey, or two-milk whey, is at the same time a grateful and a very proper drink; but when the fever begins to subside, weak
wine-

wine-whey may be allowed, or mustard-whey, made by adding an ounce of bruised mustard-seed to a quart of boiling milk.

The pains are generally most severe toward evening, whence some people might be tempted to give opiates; but these must be carefully avoided while the fever is high, as they will only aggravate and prolong the disease.

The matter of the rheumatism is best carried off by the skin; and for this reason, as the course directed is all of the diaphoretic kind, it will facilitate the cure, if the patients lie in blankets, preferably to linen sheets.

But the rheumatic acrimony sometimes passes off by a diarrhoea, or by turbid urine, which lets fall a large quantity of yellowish sediment.

It happens also, though but very seldom, that the crisis in an acute rheumatism is made by depositing a sharp humour on the legs, where it forms a number of little blisters, which terminate in ulcers, that ought not to be dried up too hastily.

If by any of these means the pain should wear off, and the fever subside, the patients must be put on a more substantial diet; and, in order to dissipate the remainder of the rheumatic acrimony, we are to direct a light decoction of guaiacum, with saffrafras and liquorice, to be taken in bed, morning and evening.

But it frequently happens, that after the fever has gone off, the pains shall not only remain, but even increase in violence, and continue to torment the patient for many weeks, or perhaps months: here then we are to have recourse to such things as shall serve to attenuate and dissipate the acrid matter which is lodged among the membranes of the tendinous and fleshy parts. And in cases where the pain is so violent as to hinder sleep, we must from time to time give opiates, in order to procure a temporary relief; and in order to promote the cure at the same time that we lull the pain, the opium
must

must be joined with ipecacoan, or emetic tartar, which renders it a sudorific.

The bark is found to answer extremely well in cases where the pains are observed to intermit, and where the sweatings in the beginning of the disease have been profuse, and the urine has deposited a sediment; it may be given either in substance or decoction, according to the liking of the patient: but where there appears to be a coldness, and an uncommon viscosity in the blood, with a remissness in the circulation, the resin of guaiacum is found to be an excellent medicine.

The common spirituous tinctures of the shops are inconvenient forms for exhibiting guaiacum, as the resin always parts from the spirit the moment the tincture is diluted in any watery vehicle; therefore it will be best to order resin of guaiacum, to the quantity of a scruple, to be rubbed up with a little of the yolk of an egg, and dissolved by that means in an ounce or two of any pleasant distilled water, to which we may add thirty or forty drops of the spiritus volatilis aromaticus, and a drachm or two of syrup of saffron or orange-peel; the whole making a draught to be taken at bedtime.

But a still more elegant way of administering this resin is, by dissolving it in lime-water, by the addition of quick-lime: the resin and quick-lime, equal parts, are to be rubbed together, then the lime-water poured on, and when the mixture has stood till it becomes fine, filter the clear tincture. The volatile aromatic spirit may be added in due proportion to this solution, and then it makes an elegant volatile tincture of guaiacum, which mixes in any watery vehicle.

So much for the acute species of rheumatism. The *chronic* is mostly found to invade people who are rather advanced in life; the pain seldom attacks so many places at a time as in the acute species, neither are the parts affected so liable to become red or swollen.

Repeated

Repeated bleedings in these cases are improper; but blistering is often of great use, and they require frequent purging, and sudorifics. It is of service to add resin of guaiacum to the cathartics; and opiates may be given with safety, when the pains are so severe as to hinder the patients from getting the necessary proportion of sleep. Nothing answers better to secure against relapses of the chronic rheumatism, than wearing a flannel shirt, which is also of use, in some instances, to alleviate the pains and shorten the disease.

In these chronic cases, topical applications are sometimes found to be of use; such as rubbing with equal parts of the volatile and soap-liniments; and laying plasters to places where the pain is fixed, compounded of the gum and soap-plasters, with a little of the emplastrum vesicatorium: obstinate rheumatic cases will require change of climate, and the use of the natural hot baths; and in persons not too far advanced in life, the cold bath is an excellent preservative against returns of the rheumatism.

Both the acute and chronic species of rheumatism are liable to be complicated with other complaints, which render it necessary to distinguish some varieties of the disease.

1. *Rheumatismus dysentericus*. There are cases wherein the morbid matter has been observed, by turns, to affect the intestines with severe griping and violent purging, and the fleshy parts of the body with acute pains: when the belly is at ease, the limbs are excruciated with pains; when these abate, then the griping and purging begin, and thus go on tormenting and exhausting the patient for weeks in succession. The method of treatment which succeeded in a case of this sort was, small doses of ipecacoan with opium, mild doses of rhubarb being occasionally interposed; but the recovery was slow, and not complete, until the warmth of the summer months came in to the physician's aid.

2. *Rheumatismus arthriticus*; when the pains occupy the joints, and at the same time spread to the fleshy parts, so that it is hard to
say

say whether the disease be gout or rheumatism. These cases particularly require, and seldom yield to any thing but the natural hot baths.

3. *Rheumatismus scorbuticus*; which affects people who have suffered from the putrid scurvy, and been long confined to garriſons, or at ſea. Courses of goat's whey, or of common whey mixed with freſh vegetable juices; or freſh infuſion of malt, taken in the way that ſhall be mentioned hereafter, with vapour-bathing, are the moſt likely means of eſtabliſhing health in theſe circumſtances. The looſe rotten gums, ſwelled legs, and livid ſpots, will ſerve to diſtinguiſh the ſcorbutic rheumatism.

4. *Rheumatismus ſyphiliticus*. When there is reaſon to believe that there is a complication of venereal virus with the rheumatic acrimony, the uſe of vapour-baths, and a courſe of mercurials, combined with ſome convenient preparation of antimony, together with the decoction of ſarſa-parilla, will bid fair to eradicate the morbid matter.

5. *Rheumatismus hyſtericus*. When pains of the rheumatic kind diſtreſs perſons of the hyſteric temperament, the cold bath, and a courſe of the cortex macerated in lime-water, as before directed, will be found the moſt likely means of giving more ſtrength to the ſolid texture, and abating the extraordinary degree of ſenſibility.

The ſmall of the back is the place where hyſteric people are moſt apt to feel ſevere pain.

We formerly mentioned the complication of the rheumatism with an intermittent fever, wherein there is alſo a neceſſity for giving the cortex.

The *lumbago*, or fixed pain in the ſmall of the back, and the *iſchias*, vulgarly termed Sciatica, or fixed pain in the hip, do not appear to be diſtinct genera, but may be conſidered as ſpecies of the rheumatism or gout: of both theſe there are ſeveral varieties; no leſs than ſeventeen of the lumbago, and eleven of the iſchias, being diſtinguiſhed by Sauvages.

LUMBAGO.—The *lumbago* may be confounded with the nephritis, or nephralgia, wherein the pain arises either from an inflammation of the kidney, or from stoney concretions lodged there; but in the two last-mentioned diseases there is generally a nausea or retching to vomit, and a numbness or uneasy sensation all down the thigh; whereas in the true rheumatic lumbago the pain of the loins is not so attended, but there is a greater increase of pain upon stirring, or endeavouring to raise up the body, than when the case is nephritic.

When the lumbago partakes of the nature of an acute rheumatism, we must bleed repeatedly, give saline purges, and throw up clysters, with turpentine dissolved in the yolk of an egg; nitre will also be required, with plentiful dilution. But in cases of the chronic kind, it will be proper to apply a stimulant plaster to the small of the back, or to rub the same part with volatile liniment, and also give a solution of the capivi, or Canada balsams.

SCIATICA.—The *sciatica* sometimes appears rather to belong to the gout than rheumatism; and in such cases the pain is more deeply seated than when it arises from rheumatic acrimony. The former is termed *Ischias Arthritica*, the latter *Ischias Rheumatica*; the treatment of both must be regulated according to what has been already laid down for the two primary diseases. Blistering the thigh, or cutting an issue in the proper place, either above or below the knee, have been found to relieve the pain of the hip.

It has sometimes happened in cases of inveterate sciatica, that such a flow of humours has fallen on the joint as to relax the ligamentum rotundum, which connects the femur with the socket; whence an imperfect or even complete luxation has ensued.

An abscess has also been known to form in the same place; and, in lying-in women, who have a great flow of milk, if this be suddenly suppressed, there are cases where a severe pain has begun in

the groin, and spread itself to the hip, attended with an œdematous swelling of the leg and thigh. This disease will be treated of in its proper place.

C H A P. III.

Of the Ostocopus; its different Species.

THAT genus of painful disease termed Ostocopus, is distinguished into different species :

1. *Spina ventosa*; when there is an erosion of the internal periosteum, and a corruption of the marrow in such bones as those of the thigh, leg, and arm.

The pain in these cases is extremely severe, deep-seated, and the bone swells out; it is mostly in scrofulous habits that this disease takes place. Amputation is generally the only means of preserving life; and this ought to be put in execution before the strength be too far exhausted by the hectic fever, which always supervenes.

2. *Ostocopus cancrusus*; when a cancerous acrimony settles in the vessels of the periosteum, bone, or marrow, in any particular place. There is no remedy, except in such cases as admit of extirpation.

3. *Ostocopus syphiliticus*. The venereal virus is one of the most frequent causes of pain in the bones; and the case may be distinguished from the ostocopi which proceed from other causes, by the pain's raging most in the night-season, when the patient grows warm in bed. The method of cure will be laid down when we come to treat of the lues venerea.

4. *Ostocopus ab osteosarcosi*. In those uncommon cases wherein the bones lose their natural solidity, the disease begins by severe deep-seated pains in the boney substance. There is no remedy yet known: but, as a prevalent acid appears to be the source of the disease, a course of lime-water, and other antacids, might be tried.

5. *Ostocopus*

5. *Ostocopus scorbuticus*; known by the distinguishing signs of the scurvy, which accompany the deep-seated pains. If curable, this species will probably yield to the courses proposed for the scorbutic rheumatism.

CHAP. IV.

*Of the Headach; its different Species, and Methods of Treatment;
and of the Otalgia, or Earach.*

THE *headach*, when considered as a primary disease, may be distinguished into three species:

1. *Cephalalgia*; when the pain is rather dull, and accompanied with heaviness, the head feeling as if it were turgid or over-loaded.
2. *Cephalæa*; when the pain is exceedingly acute, accompanied with a spasmodic tension, and soreness of the teguments.
3. *Hemicrania*; when the pain occupies only a part, or half of the head.

These distinctions are not of very much use in practice; the principal differences to be attended to are, whether the pain depends on a plethora, and tendency to inflammation; on a rheumatic, or arthritic acrimony; on an intermittent fever; on a venereal taint: or whether it proceeds from foulness of the stomach, or some other affection of the nerves bestowed on the alimentary canal.

When a headach depends on plethora, which may be known from the full pulse, florid countenance, and heaviness of the head, bleeding and subsequent purging will probably remove the pain; or, if it should not readily give way, we may apply cupping-glasses with scarification to the nape of the neck, and to the back part of the head.

Headachs from a rheumatic or gouty humour must be managed according to the principles already explained. When the complaint

is found to depend on the dregs of an intermittent fever, we must have recourse to the cortex, which will be improved by giving valerian along with it, and interposing emetics from time to time. If a venereal taint is found to be the cause, then mercurials must do the business; but when the headach is purely nervous, and depends on saburra, or other causes seated in the stomach or intestines, then, after having premised a gentle emetic, we must have recourse to bitters and stomachic strengtheners, and take especial care that none of the discharges be suffered to fall short, since nothing contributes more to bring on the pain than these suppressions, particularly costiveness; and for this reason, an aloetic pill, a spoonful of oleum ricini, a little lenitive electuary, or a few grains of rhubarb, must be given occasionally, according to the circumstances and constitution of the patient. Obstruction of the menses, or of the piles, seldom fail to produce the headach; and therefore these discharges must, if possible, be again set free.

But there are many cases of headach which invade periodically, and torment people for a number of years, for which it is impossible to assign any certain reason during the life of the patient.

These periodical headaches are seldom attended with immediate danger; but such as are perpetual and violent, generally end in the apoplexy, some species of bad fever, or spasmodic disease.

The dissection of subjects who had been much afflicted with pains of the head, have shewn a variety of sources to which they might be ascribed, and which the reader may see in the observations of Morgagni and Lieutaud. In some, the sutures of the skull were found to be so closed up as scarcely to shew any traces of the junction of the different bones of the cranium. In others, the dura mater was found thickened and indurated. In others, there were earthy concretions in this membrane. In others, the skull sent out little processes, like thorns running into the brain and its membranes; and in others, (which is
still

still more remarkable,) crude mercury was found in the ventricles of the brain, and at the basis of the scull, not only in subjects who had used mercurial frictions, but also in such whose employments exposed them to the vapour of that mineral, particularly gilders.

External applications will often give immediate relief in the head-ach, such as Ward's essence; a little of this dropt into the palm of the hand, and applied to the forehead, will generally remove the pain for a time, and so will æther when applied in the same way. People subject to headachs should make light suppers; they should lie with the head high, and sleep in thin night-caps, go to bed always with their feet warm, and well rubbed, and never suffer themselves to grow costive.

C H A P. V.

Of the different Species of Toothach.

THE *toothach* often depends on a fluxion of acrid humour, but much oftener on a caries, which, by destroying the enamel, allows the cold air, or the substances we eat and drink, to come in contact with the nerves which accompany the blood-vessels that go to the inner-part of the tooth; though in some instances the toothach appears to be merely sympathetic, and as such is frequently observed to torment hysteric patients, and pregnant women.

We may conclude a toothach to arise from the fluxion of acrid humour, when the teeth are all sound, when the pain is not confined to any particular tooth, and when the gum is swelled and inflamed.

In the beginning, scarifying the gums, or applying leeches to them, will perhaps divert the humour, and abate the pain and inflammation; or, if these do not answer, a blister behind the ear. But if the pain persists, and the gum swells more and more, we may expect a suppuration; and to encourage this, should direct a piece
of

of toasted fig, to be held between the gum and the cheek; and when it is found that the little abscess is ripe, it must be opened, and pledgets dipt in honey of roses, with some tincture of myrrh, from time to time renewed, and kept on the part, in order to deterge and heal up the ulcer.

When teeth become carious, the complaint is for the most part evident to the sight; but we may be further insured by gently striking the suspected tooth with some hard instrument, for, if this raises a sharp pain, we may assure ourselves the tooth is not sound.

It is always best to extract rotten teeth, for they certainly spread the corruption to those that are sound. Very often a carious tooth has been found to give rise to swellings, and ulcerations on the chin, and about the cheeks, which will never disperse nor heal up till the rotten tooth be extracted.

When pains of the teeth are sympathetic, they cannot be removed but by removing the cause which disturbs and disorders the nervous system. If the symptom be merely hysterical, its cure must depend on such a course as that proposed for the rheumatismus hystericus.

If it be a symptom of pregnancy, bleeding for the most part removes or alleviates this, and all other complaints arising from that source.

The different species of toothach are denominated as follow, according to their several sources and concomitant circumstances:

1. *Odontalgia catarrhalis*; when the pain arises from a fluxion of acrid humour.
2. *Odontalgia cariosa*; when from rottenness of the tooth.
3. *Odontalgia scorbutica*.
4. *Odontalgia arthritica*; when the pain of the teeth alternates with that of the joints in gouty persons.
5. *Odontalgia hystERICA*.

OTALGIA.

OTALGIA.—The *earach*, or *otalgia*, is a most severe disease; if it depends on inflammation it must be treated as before explained; if from living insects, the most ready way to destroy them instantly, is, to blow in the smoke of tobacco, and afterwards pour in warm oil. If the pain should be merely spasmodic, or arise from a fluxion of acrid serum, then blistering or cupping the back of the head will bid fair to give relief; and at the same time we must put soft doffils into the ear, dipt in oil of bitter almonds, with a little oleum succini, and tinctura thebaica.

The species of *otalgia* are,

1. *Otalgia inflammatoria*; when there is a fulness of the habit, and tendency to inflammation.
2. *Otalgia purulenta*; when there is an ulceration or purulent discharge from the ear, accompanied with severe pain.
3. *Otalgia verminosa*; from insects getting into the ear.
4. *Otalgia ab intrusis*; from hard bodies thrust into the ear.
5. *Otalgia catarrhalis*; from a defluxion in consequence of obstructed perspiration.

CHAP. VI.

Of the Pleurodyne, or Pain of the Side; its different Species, and Methods of Treatment.

THE *pleurodyne* is that pain in the breast which is distinct from the pleurisy and peripneumony, as being unattended by febrile symptoms: of this there are different species; those which are most likely to occur in practice are,

1. *Pleurodyne plethorica*, or bastard pleurisy. There is a pungent pain in the side, but not deeply seated, affecting only the intercostal muscles; a cough, and difficulty of breathing, but without oppression;

oppression; disturbance of the pulse, or feverish heat. This complaint is usually the consequence of catching cold, or of suppressed menses. It is cured by bleeding, abstinence, gentle diaphoretics, and the application of volatile liniment, or some warm cataplasms; or, if these do not bring immediate relief, by blistering or cupping on the part.

2. *Pleurodyne flatulenta*. A most acute and sudden pain strikes through the side; it resembles the cramp, both in its violence and duration, for it generally goes off before the patient has an opportunity of applying for medical aid. When it lasts so long as to require some application, a hot flannel with volatile liniment, or a flannel bag filled with hot salt, will seldom fail to remove the pain. In the mean while, there will be a necessity for giving the tinctura foetida, or equal parts of tinctura fuliginis and valerianæ volatilis, in some convenient vehicle.

These stitches, as they are usually termed, arise from indigestion; whence the radical cure must be effected by the use of such medicines as have power to strengthen the digestive organs, and prevent the accumulation of saburra.

3. *Pleurodyne a spasmate*; when a pain of the side is occasioned by a strain, in lifting heavy weights or the like. Bleeding, emollient liniments, or relaxing fomentations, with gentle purging, are the remedies in these cases.

4. *Pleurodyne parapleuritica*; that chronic pain of the side which remains after a pleurisy, owing generally to an adhesion of the lungs to the pleura.

5. *Pleurodyne verminosa*. Worms in the intestines sometimes occasion a pain in the side. This species will be discovered by advert-
ing to the signs which peculiarly denote the presence of worms, and which have been already laid down, as also the methods of cure.

The *pleurodyne rheumatica, arthritica, syphilitica, and scorbutica*, are all symptomatical, and ought to be referred to the primary diseases.

C H A P. VII.

Different Species and Varieties of Pain in the Stomach, and Methods of Treatment.

THERE are three species of the *pain* which is felt in the region of the *stomach*:

I. *Pyrosis*, heart-burning; a painful sensation, attended with heat, rising from the stomach up to the œsophagus, and sometimes into the fauces.

II. *Cardialgia*; an uneasy or painful sensation in the epigastric region, accompanied with oppression and faintishness.

III. *Gastrodynia*; a most acute pain in the region of the stomach, often accompanied with a swelling, but without that tendency to faint as in the *cardialgia*, and without any symptoms of fever as in the *gastritis*. Of each of these species there may be distinguished several varieties; as, I. Of the *pyrosis*.

1. *Pyrosis à saburra*; the common heart-burning, arising from *saburra*, either acid, rancid, or empyreumatic; which *saburra* is the consequence, for the most part, of excesses in eating or drinking: an emetic is the first step toward a cure, and afterwards the *magnesia alba*, if it be an acid that offends. In the *pyrosis* from rancid or empyreumatic *saburra*, the cure is seldom perfected without the aid of mineral waters of different kinds, such as may happen to suit the taste and convenience of the patients; for it is difficult to settle absolutely which water will answer best, until trial shall be made how they agree with the stomach. The food in all these cases ought to be plain, and light of digestion, without fat, or greasy high-seasoned fauces.

U u u

2. *Pyrosis*

2. *Pyrosis biliosa*. When a heart-burning arises from a sharpness or exuberance of bile, emetics will be first necessary to discharge the offensive fluid; and, as a prophylactic remedy, nothing answers better than drinking a pint of cold spring water every morning fasting. See further under the articles of *Gastrodynia biliosa*, and *Bilious Colic*.

3. *Pyrosis ulcerosa*. If there be any excoriation or ulceration of the stomach, the pain will be constant, but greatly exasperated on swallowing any thing hot or acrid. In such cases, a diet entirely of milk will perhaps be the best remedy.

The varieties of the *cardialgia* are,

1. *Cardialgia saburralis*. This will be distinguished by the foulness of the tongue, and frequent eructations of a disagreeable flavour, weight at the stomach, and loss of appetite. The cure is to be conducted on the like principles with that laid down for the *pyrosis vulgaris*.

2. *Cardialgia à veneno*. When it is known that any poisonous substance has been the cause of distressing symptoms, we are to proceed as formerly directed in cases of the *gastritis à veneno*; namely, to bring up as much as possible of the offending matter by an emetic, and afterwards to fill the whole alimentary canal with chicken or veal-broth, milk, fresh-butter melted, or sweet oil, giving them largely both ways, by the mouth and in clysters.

3. *Cardialgia sputatoria*; when the symptoms peculiar to the *cardialgia* are attended with a plentiful discharge of clear lymph, like saliva; sometimes insipid, at others acrid, and comes up at intervals, to the quantity of a pint or more from the stomach. This is described by Linnæus as a frequent disease among the inhabitants of the northern parts of Sweden. It is also known in these countries, and in Scotland, and the northern parts of Ireland: the common people call this complaint the *Water-Brash*. A tincture of the cortex in lime-water will probably be found to do service.

4. *Cardialgia*

4. *Cardialgia paralytica*, seu *bradypeptia*; when the muscular fibres of the stomach so far lose their tone, that they want strength to propel the food, whence it remains in this place longer than is consistent with health. This disease is the natural consequence of continued excesses in eating or drinking, and is not to be cured but by returning to a temperate course of life. The vinum amarum, and acid elixir of vitriol, or, where acids do not agree, the sweet elixir, will generally be found to do service. If costiveness attends, a mixture of the elixir aloes with that of vitriol, will bid fair to give relief, and may be taken to the proper quantity, in a convenient vehicle. Riding is of great use in these cases, but taking a voyage to sea is still more effectual.

5. *Cardialgia arthritica*; when the gout, having left the extremities, seizes the stomach. The methods to be pursued in order to obtain relief have been already mentioned.

6. *Cardialgia verminosa*. Worms are not an unfrequent cause of the cardialgia, especially the tænia. For the signs and methods of cure, the reader is referred back to the tabes verminosa.

The varieties of the *gastrodynia* are,

1. *Gastrodynia ab ingluvie*; pain in the stomach, from a surfeit. This will be known by enquiring into the circumstances preceding the complaints. The pain is not so excessive as when the stomach is simply over-distended with flatus. Immediate vomiting must be excited, and the stomach well washed, by drinking plentifully of camomile-tea. White vitriol is a substance that vomits more speedily than either ipecacoan or any antimonial preparation, and therefore, in doses from eight to sixteen grains, it will be the best emetic in cases of surfeit. After every thing has been thrown off, if sickness or weakness of the stomach should remain, the acid elixir of vitriol in some proper vehicle will restore the appetite and brace up the over-distended fibres.

2. *Gastrodynia flatulenta*. When wind is pent up in the stomach, so as to over-distend and distract the sensible fibres, there is a most acute pain in the epigastric region, accompanied with a sensation as if the stomach were contracted; the breathing is rendered difficult, except when the patient leans forward; the pulse is small and depressed, the extremities grow cold, and there is a great degree of straitness about the præcordia; nevertheless, the patient can bear pressure on the pit of the stomach, which distinguishes this variety of gastrodynia from the gastritis, and from the gastrodynia biliosa and hysterica: when wind is discharged, the patient finds immediate relief, which may be held as another pathognomonic sign. A glass of very strong peppermint-water; or, which is better, the essence of this herb, diluted to a proper degree, will generally procure ease; but as these cases are usually attended with costiveness, we are not to expect permanent relief until this complaint be removed; therefore, a sharp clyster is to be immediately injected; and, if these means do not procure ease, we must have recourse to opiates. If the habit be plethoric, it will be necessary to bleed; and the patient, in order to avoid relapses, should use stomachic bitters, abstain from all kinds of crude flatulent vegetables, and be particularly careful that the body be kept sufficiently open.

3. *Gastrodynia biliosa*. The pain here is supposed to proceed from an exuberance of acrid bile; it is extremely acute, and accompanied with a vomiting of sharp greenish fluid; there is extreme weakness, and great dejection of mind, and such a tenderness at the pit of the stomach, that the patient cannot bear the least pressure on this part: this assemblage of symptoms often happens in women, and then the disease is generally considered as hysterical. The vomiting is to be encouraged, by drinking freely of weak chicken-broth, until the stomach shall be thoroughly cleared, and then we are to have recourse to opiates: if the stomach will not retain the laudanum, it must be given in clysters. This disease being nearly allied to the bilious

colic, of which we shall hereafter lay down the general scheme of treatment, we shall add nothing more to the present article.

4. *Gastrodynia à veneno.* To what has been already said concerning the effects of poison, we may add the following remarks, because difficulties sometimes arise in respect to the evidence which is required of medical persons on the trials of people accused of poisoning.

When the poison swallowed has been of the most acrid kind, such as corrosive sublimate, or the strong mineral acids of vitriol, nitre, or sea-salt, then the fauces and mouth cannot fail of being excoriated or ulcerated, and these appearances will leave no doubt of the reality of the poisoning; but when these external marks are wanting, there will be reason to suspend our judgment until a sufficiency of other circumstances shall clear up the matter.

When death has ensued, then the appearances on opening the body will serve, in great measure, as guides to direct the opinion. But we are to be cautious even here, and consider that the erosion of the coats of the stomach, and the livid or mortified spots are not of themselves sufficient proofs of poison, because these may proceed from internal causes, and therefore it is proper to examine the contents of the stomach.

One method is, to soak a piece of bread in the liquid matters found here, and give it to a dog, and from the effects it has on this animal form a conclusion.

If a white powder shall be found in the stomach, let it be inclosed between two plates of copper, and let these be put into the fire, and made red hot, the copper will become white if the substance inclosed is arsenic.

5. *Gastrodynia à xiphoide.* The point of the cartilago ensiformis is sometimes so depressed as to excite the symptoms of a cardialgia or gastrodynia. In this case it has been recommended to apply cupping-glasses, with a view to raise the cartilage; but this scheme does not seem to promise much success.

6. *Gastrodynia*

6. *Gastrodynia ab extraneis*. When hard indissoluble substances are swallowed and remain in the stomach, they generally, though not always, give rise to pain, sickness, and other distressing symptoms.

C H A P. VIII.

Of the different Species of Colic, and Methods of Treatment.

THOSE internal pains which are felt in the abdomen, chiefly about the umbilical and hypochondriac regions, and which are usually accompanied with costiveness, are termed in general *Colic*.

It is seldom possible to determine the precise seat of the disease in these cases, or to say exactly which is the part affected, on account of the various windings of the intestines, and their contiguity to the different abdominal viscera.

It is proper to distinguish at least five species of colic:

1. When the pain arises from flatus, pent up in some part of the intestinal tube, without any degree of inflammation, or signs which denote faults in respect of the bile. This species is termed the *Flatulent* or *Windy Colic*.

2. When, from the tension of the abdomen, and its soreness to the touch, together with heat, thirst, and a quick pulse, we infer that there is some degree of inflammation: whence this species gets the name of the *Inflammatory Colic*.

3. When the colic-pain is accompanied with vomiting of bile, or followed by a yellowness of the skin, it is called a *Bilious Colic*.

4. When the vomiting, accompanied with obstinate constipation, is of such continuance, and the matters thrown up are of such a nature as to give reason to conclude that the passage downwards through the intestines is entirely closed up, the disease is termed the *Iliac Passion*.

5. When

5. When a most excruciating pain in the umbilical region, striking through to the back, is accompanied with the most obstinate costiveness, and a retraction of the navel, and succeeded by a spasmodic contraction, or a palsy of the lower extremities, this species is called the *Nervous Colic*.

Flatulent Colic.

We shall know the *flatulent Colic* by attending to the following circumstances: Discharges of wind, or feculent matters downwards, always give relief. The pain usually shifts about, and follows the track of the colon, and consequently crosses the epigastric region, whence it often inclines one to believe the stomach to be the seat of the disease. The pain is not exasperated by pressure, but rather relieved; as rubbing the belly sometimes promotes the expulsion of flatus, and hastens discharges by stool. There is no extraordinary thirst, and the pulse but little disturbed.

There is always such a portion of elastic vapour contained in the stomach and intestines, as serves to distend them; but in a moderate degree, so long as it has liberty to spread itself throughout the whole extent of the canal; but when a stop is put to the equable diffusion of this flatulent matter, whether it be by an obstruction or a constriction, then immediately the flatus which is so confined begins to expand itself, and soon comes to over-distend the sensible fibres.

This over-distension, beside the pain which it occasions, will impede, or perhaps altogether suspend the peristaltic motion; and consequently the contents of the intestines will not be propelled as they naturally ought to be: hence the costiveness which always attends the colic pain. But in some cases it appears, that the peristaltic motion is even inverted, so as to force the various contents of both the smaller and larger intestines up into the stomach, from whence they are ejected by violent vomiting.

Though every part of the alimentary canal be liable to constriction or obstruction, yet the most common places for the above-mentioned
flatus

flatus to be intercepted, is at the upper orifice of the stomach, the pylorus, the lower part of the duodenum, at the valve of the colon, and at its flexure, where it turns up under the false ribs on the left side.

But the great difficulty is, to know in any given case the particular cause of the constriction or obstruction, since either may arise from various sources; as acrid bile, different kinds of saburra, stoppages of the ductus communis, from spasm, or from biliary concretions; hardened fœces, worms, ruptures, remains of undissolved food, earthy or stoney concretions lodged in the intestines; compression of the intestines from tumors in any of the contiguous viscera; intussusception or volvulus of the intestine; a thickening of the coats of the intestine from scirrhus or cancer, &c. Most of these can only be guessed at; and hence the great necessity for making the strictest enquiry into every circumstance relative to the patient's constitution, and conduct in respect of the non-naturals, previous to the attack of the disease.

The indications of cure in all these cases of colic are, to take off the stricture, and remove the obstructions to the free passage of matters downwards; whence the bowels will be unloaded, and the elastic vapour will be restored to the liberty of diffusing itself.

In full constitutions, with strong fibres, it is always proper to take away some blood, whether there be evidences of actual inflammation or not, and this in order to lessen the danger of one supervening. The next thing to be done is, to throw up a common clyster, which, in the slighter degrees of flatulent colic, will generally be found to procure a stool or two, and remove the pain: if one injection does not excite the proper discharge, nor abate the pain, we must try the effects of a second; and, to make it more active, boil up (towards the end *) some sena or colycinth in the decoction, and add oil, honey,

* Long boiling destroys the purgative quality of sena.

and common salt; or, which is better, crude sal ammoniac: if these do not answer, we are then to have recourse to remedies by the mouth. The oleum ricini, mixt with some strong sweet wine, brandy, or pleasant spirituous water, will generally be found to purge, and usually abates the pain, even before the stools are procured; or, instead of this, a solution of manna and Rochelle salts, mixed with oil of sweet almonds, and quickened with tincture of senna or tinctura sacra. If liquids will not lie on the stomach, we must try pills or boluses, made up of some of the brisker cathartics; scammony generally answers well, and may be formed into pills of five or six grains; one to be taken every hour till they produce the desired effect. It will be necessary, when the pain is extremely severe, to join opium with the purgatives, and to stupe the belly; or apply bags filled with common salt, or oats heated; or, where there are suspicions of inflammation, the common sal catharticum amarum, dissolved in a large quantity of warm water, and taken gradually, is recommended by Sir John Pringle as preferable to any other purgative.

It should be a general rule in all colic cases to make particular inquiry concerning ruptures, lest there be one, and the strangulations of the intestine should occasion the distress: in women who have born a number of children, the intestine is apt to push out at the navel, or in different places of the parietes of the abdomen; but in other subjects the groin is the most likely part for a rupture to happen.

Inflammatory Colic.

The *inflammatory colic* only differs in degree from the enteritis, formerly treated of, and requires repeated bleeding, according to the urgency of the symptoms, and fulness of the patient's constitution; together with the clysters, and other means already mentioned, in order to procure a free passage by stool. To which we must add, the warm bath, when the other remedies do not take effect.

If by any of the foregoing means a purging can be brought on, it is to be encouraged by drinking freely of broths, and at bed-time let an opiate be given; but if no stools have been procured, and the severe pain still continues, we must try more active cathartics than those already mentioned; the extractum catharticum, joined with calomel and opium in due proportions, and made into pills, to be taken along with the liquid purges, will probably answer; if they should not, it is usual to give crude quicksilver in large quantities*, or to make the patient swallow leaden bullets; as these, by their weight, may possibly force through the constricted or obstructed part of the intestine. Another method, which has sometimes been found successful, is, to take the patient out of bed, and dash cold water on the lower extremities, while he stands on a cold flag barefooted. In desperate cases, it is also usual to try the effects of tobacco-clysters, either boiling a drachm or two of the leaves in the common clysters, or blowing the smoke into the rectum by means of a proper instrument.

When we are successful in procuring ease, and bringing on a purging, the patient will soon recover, but not all at once; and therefore there will be a necessity, for some days, to continue the use of the gentle cathartics, and of the opiates at night, until the foreness, and all sense of fulness and tension, shall be entirely gone, and until it shall appear from the stools (which in these cases are always to be inspected at every visit) that all remains of hardened fæces are carried off, and that the passage is perfectly free.

In order to prevent relapses, nothing is of so much service as riding; and the patient should carefully abstain from crude flatulent vegetables, and from flesh-meats of hard digestion, and should never suffer costiveness to take place; but always, when Nature is deficient in this respect, have recourse to some gentle cathartic.

* Two or three ounces may be swallowed in a little broth every second hour.

Bilious Colic.

The *bilious colic* is particularly distressing on account of the vomiting, which is oftentimes very difficult to restrain. The antiemetic draughts, formerly mentioned, must be tried; a proper quantity of *tinctura thebaica*, or of *theriaca andromachi*, or *mithridate*, must be given in the clysters; the patient must be put into a warm bath, and continued there so long as it can be borne without causing distress; *mithridate* spread in form of a cataplasm, may be laid to the pit of the stomach; the leaves of the common garden mint boiled in claret, and laid to the wrists and pit of the stomach, have been known to answer, when many other things have failed, to stop a vomiting.

The bilious colic is more apt to return than any other species; and the patients, before they can obtain a radical cure, are generally obliged to have recourse to such waters as those of Bath, Aix-la-Chapelle, or Bareges; but when people cannot avail themselves of those salutary springs, they must be contented to try the effects of a composition of the aperient gums, with soap, *flores martiales*, and rhubarb, joined to a course of Seltzer, Vahls, or some sulphureo-chalybeate water. (See further in Chap. III. Book IX. on the jaundice.)

Iliac Passion.

The *iliac passion*, or *ileus*, is considered by Sauvages as a distinct genus from the colic; and placed, rather improperly, among the *alvi-fluxus*. But as the methods of treatment for the ileus are to be conducted precisely on the same principles as in the cases of flatulent, inflammatory, or bilious colics, it would be a needless multiplication of distinctions, to look on this disease as any other than a species of colic; we therefore hold it as such.

The stoppage of the passage downwards may happen from various causes; and hence we may, if we please, distinguish a number of varieties of the iliac passion; but as it is seldom possible, in the living subject,

subject, to discover the precise nature of these obstructions, such distinctions are of little or no use in practice, and therefore omitted.

Let the original cause of the stoppage be what it will, if it is not removed in due time, an inflammation will supervene; and then, if the stricture or obstruction of the intestine does not speedily give way, a mortification will succeed: the signs of which have been already pointed out, when treating of the enteritis.

Nervous Colic.

Though the foregoing species of colic are sufficiently distressing and dangerous, yet none of them are attended with such an excruciating pain as the *nervous colic*.

This disease is endemic in some countries, and is usually charged to the too frequent eating and drinking things of an austere acid quality, or to an accidental mixture of lead with the drinks which are in common use.

The principal feat of the pain seems to be the center of the mesentery; the navel sinks in, and the intestines are so drawn toward the spine, that it has sometimes been found impracticable to force up clysters.

The violent pain generally holds five or six days, though it will sometimes run out to twelve or fourteen, and be so exceedingly tormenting as to throw the unhappy patients into despair; and yet, what is remarkable, the pulse all this time shall seldom be found quicker than in health, sometimes rather slower; which shews, that in this disease the motions of the vascular system are but little disturbed.

Before the disorder is confirmed, it may possibly be removed by the injection of clysters, made of a decoction of colocynth, fena, and carminative seeds, in which either common salt or crude sal ammoniac have been dissolved, and a proper quantity of oil mixed, especially

cially the oleum ricini: and, after the intestines are partly unloaded, the belly is to be kept open by the milder laxatives, of which the oil above mentioned is one of the most effectual; the patient is to guard against catching cold, and be particularly cautious in regard of diet, lest any thing acrid or indigestible be taken into the stomach.

But the physician is seldom called in till the disease is in, what may be termed, its Second Stage, when a constant vomiting of green bile usually attends. The first thing to be done in these circumstances is, to encourage the discharge of this acrid bile by drinking freely of thin broth; after that, we are to endeavour to bring off the hardened fæces by the repeated injection of purging clysters, and then, if possible, procure ease from the pain by giving opiates in large and repeated doses, and by putting the patient into a warm semicupium, or, at least, fomenting the belly with emollient decoctions. Blistering on the navel has been found to ease the pain; but such practitioners as have had most opportunities of seeing the nervous colic, fairly confess, that they are seldom able to succeed in relieving their patients, who generally sink under the disease; or, if they survive the painful period, are for a long time rendered miserable by the paralytic weakness which ensues.

The nervous colic is a frequent disease in the West Indies, where it is termed the Dry Belly-Ach. Dr. Town, who practised in those parts, describes it as the most dreadful of all torments. He lays down the usual scheme of management. But Dr. Chalmers of Charlestown in South Carolina has lately favoured the public with an Essay, in the American Magazine for July 1769, wherein he has communicated a method of cure, which for some time had been kept a secret by a family at Charlestown; and which is said to remove the disease speedily, and so effectually, that it seldom returns, unless the constitution has before been greatly shattered by repeated attacks.

In the first place, bleeding is enjoined; then an ounce of colocynth, two drachms of senna, and half a handful of anise-seeds, with as much
common

common salt, are to be boiled in a proper quantity of water; to give twelve ounces of strained decoction, to which oil and honey, or molasses, are to be added, sufficient to make a clyster: this is to be immediately injected, and repeated a second or a third time, at the distance of half an hour, till a stool be procured. If the pain continues after this, a clyster is to be given, of twelve ounces of warm milk, with six grains of opium dissolved, or a decoction of the white poppy-heads in milk, which answers instead of the opium. On the following morning, the patient is to begin with a solution of blue vitriol in water, in the proportion of one grain to an ounce; of this, from two to three spoonfuls are to be taken fasting; if the first dose does not bring on vomiting, it is to be repeated every half hour till it operates; next morning the vitriol is to be taken again, and so on for nine days successively. For the first four or five days, much green sharp bile is usually discharged both ways, but this lessens by degrees; and before the course is ended, the medicine has little other effect than raising some degree of nausea, and promoting a few yellow stools, or perhaps not moving the patient at all. During this interval, the diet is to be broth, gruel, and panado; but about the seventh or eighth day, those who are impatient of such thin diet are allowed bread and boiled chicken, and sometimes a little rum well diluted with water; but all fermented drinks and acids are strictly forbidden. By degrees the patients return to their accustomed way of living, only taking care to abstain for some time from sour punch.

If a pain of the stomach should remain, the patient is to be purged with rhubarb, and a plaster of galbanum is directed to be worn over the part affected.

It does not clearly appear that Dr. Chalmers, at the time of publishing his Essay, had himself practised in the way above mentioned, but he speaks of it as an established method in those parts. The quantity of opium in the clyster appears rather too large to begin with, though in cases of such violent pain, as well as in those of violent spasm,

spasm, it is well known that this medicine may be given safely in doses, which at other times would be productive of very alarming effects.

At first view, one is apt to be startled at the proposal of such a harsh substance as blue vitriol, in a case where every thing acrid might reasonably be expected to increase the distress; but if it acts so powerfully in discharging the sharp bile, it may prove an efficacious remedy. Dr. Chalmers, in the Essay above-mentioned, relates a story *, which (if he was not imposed on) may serve to shew that blue vitriol may be taken in very large doses, without much hazard.

If the progress of the disease cannot be stopt, and the patient outlives the painful period, the palsy which succeeds, is sometimes removed, or at least alleviated, by rubbing the limbs, and all down the spine, with a mixture of the petroleum Barbadiense and strong rum; the same petroleum taken internally, is likewise said to be of use, as also the Peruvian balsam. But if the strength does not return speedily in consequence of these, the patient has little chance of recovery but from change of climate, taking a voyage to sea, and then trying the natural hot baths.

As a prophylactic in the West Indies, and on the coast of Guinea, it has been found of great use to wear a flannel round the waist, and to drink infusion of ginger by way of tea.

The nervous colic is termed Rachialgia by Sauvages, who makes it a distinct genus, and describes eight different species; for these we refer the reader to the Nosologia Methodica, as well as for the diffe-

* It is here transcribed.—“ A woman had twenty purging powders given her by an ignorant person in the country, with directions to take one every third day, for the cure of a carious ulcer on the tibia. Sixteen doses being used without the expected advantage, she came to me, and produced the four that remained, each of which contained about twenty-five grains of blue vitriol, without any disguise, and but coarsely powdered, perhaps no unlucky circumstance for the patient. But though they always operated very roughly both ways, her appetite was good on the intermediate days, and her health but little or none at all impaired.”

rent varieties of the other species of colics. If such minute distinctions had been absolutely necessary for establishing the methods of cure, they should have been inserted here; for though they are extremely satisfactory, considered as histories of diseases, yet the limits of the present work will not allow us to introduce any, but those which seem to promise some advantages in regard to practice.

The hysteric colic is a disease peculiar to women, and as such shall be reserved for the third class.

The *hepatalgia*, or pain of the liver, and the *splenalgia*, or pain of the spleen, when independant of inflammation, are diseases which it is hardly possible, during the lifetime of the patient, to distinguish from some of the species of colic; and therefore, in general, these complaints will be confounded; neither is there much necessity for making distinctions, since the methods of treatment are much the same as in cases of obstinate bilious colics; namely, courses of the aperient gums, with soap and mineral waters, temperate diet, and exercise, especially that of riding.

C H A P. IX.

Of the Lithiasis, or Stone.

THE *lithiasis* may be distinguished into two species:

1. *Lithiasis nephritica*, or stone in the kidneys; a fixed pain in the small of the back, generally to one side, very seldom in both; a painful retraction of the testicle of the affected side, and a numbness of the thigh; a nausea or vomiting when the pain is most severe; the urine at first is made in small quantities, and is watery; afterwards it is discharged in abundance, is turbid, hot, and often dark-coloured or bloody. These are the signs of the *lithiasis nephritica*, and shew that some stoney matter is lodged in the kidney, or working its way from thence along the ureter. This disease differs from

from the nephritis calculosa only in not being attended with febrile symptoms.

2. *Lithiasis cystica*, or stone in the bladder. The signs are, pain in the bladder, especially about the neck, and oftentimes bloody urine in consequence of riding, or being jolted in a carriage; a sense of weight in the perinæum; an itchiness of the glans penis; slimy sediment in the urine; and frequently stoppages in making water. This differs from the cystitis in the same way that the lithiasis nephritica does from the nephritis.

It is not easy to say what are the particular causes why the earthy particles of the fluids should run together, and form these calculous concretions, which are found in different parts of the body, and especially in the uropoietic organs.

The gout and the stone are generally supposed to have some affinity, because that gouty people are for the most part afflicted with the stone; but perhaps this is chiefly owing to the long confinement, and lying on the back, which people who labour under the gout are often obliged to submit to; since the want of exercise and this posture will naturally favour the stagnation of gross matters in the kidneys: besides, there are many instances of people severely afflicted with the stone, for the greatest part of a long life, who have never had the least attack of the gout.

Whatever may be the particular cause of the disposition to lithiasis, the kidneys appear to be the most likely places for the earthy particles to concrete or run together, because of the great quantity of blood which passes through the renal arteries, and which comes immediately from the heart, fraught with various newly received matters, which have not undergone much of the action of the vessels, and therefore cannot as yet be supposed to be thoroughly assimilated.

Anatomists, who have carefully examined the kidneys in the human subject, particularly M. Bertin, inform us, that there are two sets of tubuli uriniferi; the one continued directly from the extremities of

the renal artery, and the other springing from the vesicular texture, which is conspicuous in the kidney.

It is in this vesicular part of the kidney that we presume the earthy particles first stagnate and coalesce; for it is hardly to be supposed, that such solid matters could be allowed to stop in the extremities of the renal arteries, since the blood and the urine separated from it, must flow through these vessels with great degrees of force and velocity; but in the intermediate vesiculæ the earthy particles may lie, and there, attracting each other, soon come to acquire sensible degrees of magnitude, and thus become sand or gravel. So long as this sand or gravel, formed in the vesicular part of the kidney, lies quiet, there will be no pain or uneasiness until the concretions become large enough to press either on the adjoining tubuli or on the blood-vessels; then a sense of weight, and a kind of obtuse pain in the loins will be felt. But when the small pieces of earthy matter shall be dislodged, and washed off by the force of the circulating fluids, or loosened by some spasmodic action of the motory fibres in these parts, they will, in their passage, create pain, raise different degrees of inflammation, or perhaps lacerate some blood-vessels, and cause bloody urine. When these little earthy concretions happen to be detained in the pelvis of the kidney, or any other place where a flow of urine continually passes, they soon increase in size, and become calculi, from the constant accession of earthy particles, which are attracted by the original bit of sand which thus becomes the nucleus of a stone.

It is the passage of these calculi from the kidneys down into the bladder which occasions the pain, vomiting, and other symptoms that constitute what is usually termed a Fit of the Gravel or Stone.

When an inflammation is actually raised, the disease is known by the name of Nephritis, and has been already treated of.

When symptoms like those of a flatulent colic prevail, the disease will be called a Nephritic Colic, and requires to be treated with turpentine

pentine clysters, oleum ricini, warm bathing, and opiates, according to the scheme laid down in the preceding chapter.

So soon as the stone passes through the ureter, and falls into the bladder, the pain and other nephritic symptoms cease; and every thing remains quiet, either till the stone is carried into the urethra, or until it has remained long enough in the bladder to acquire weight sufficient to create new distress.

If a stone happens to be smooth and of a roundish form, it may lie in the bladder, and acquire considerable bulk before it can be perceived by the patient; but when a stone is angular, or has a rugged surface, even though it may be small in size, yet it seldom fails to raise pain, and occasion bloody urine, or the discharge of a slimy fluid, with tenesmus, and difficulty in making water.

There have been various attempts and pretences made to dissolve the stone.

The things which have been found most effectual are those which powerfully absorb the fixed air from bodies, and at the same time readily combine with oil, and render them miscible with water. For there is scarce any earthy substance that abounds more in oil, and also contains such a quantity of fixed air as the human calculus.

Hence it is, that the caustic fixed alkaline salt is such a powerful dissolvent of the stone; but this being of a very acrid nature, it requires to be well sheathed by means of some gelatinous or mucilaginous vehicle. Veal-broth is as convenient as any for this purpose, and accordingly it is used by those who make a secret of the caustic alkali, as a vehicle for the soap lees.

Mr. Blackrie, who has taken much pains in this inquiry, has proved very satisfactorily, that Chittick's nostrum is no other than the afore-mentioned caustic fixed alkali, or soap lees, given in veal-broth, which the patients send every day in a covered vessel, secured by a lock, to the doctor, who returns it mixed up with the medicine.

It is not every case, however, that either requires or will bear a course of the caustic alkali.

Some calculi are of that soft and friable nature, that they will dissolve even in common water, and there are cases wherein it appears that the constant use of some very simple decoction, or infusion of an insignificant vegetable, has brought away large quantities of earthy matter in flakes, which apparently have been united together in layers to form a stone. As, for instance, a decoction of raw coffee, only thirty berries, in a quart of water, boiled till it becomes of a deep greenish colour, taken morning and evening to the quantity of eight or ten ounces, with ten drops of sweet spirit of nitre, had the powerful effect of bringing away, in the course of about two months, as much earthy matter in flakes as filled a large tea-cup. The patient was far advanced in years, and before he began this decoction, had been reduced to great extremities by the continuance of pain and other distressing symptoms: he was purged occasionally with oleum ricini.

An infusion of the seeds of *daucus sylvestris*, sweetened with honey, is another simple and approved remedy; and has been found to give considerable ease in cases where the stomach could not bear any thing of an acrid nature: the leaves of the *uva ursi* are strongly recommended by Dr. Haen. But where the stomach will bear it, and there is no ulceration in the case, nor excessive sensibility in the uropoietic organs, either the soap lees in * new milk or in veal-broth; or soap pills in lime water, will bid fairest to do effectual service, either by dissolving the stoney concretions, or at least rendering the sharp points and rugged surface less capable of injuring the sensible membranes of the parts where these hard bodies lodge, or happen to pass through.

* The patient must begin with small doses of the lees, such as 30 or 40 drops, and increase by degrees, as far as the stomach will bear.

But in such cases, either of the lithiasis nephritica, or cystica, as will not allow us to think of dissolving the stoney concretions, and where the only scheme is to palliate and procure ease from time to time, little more can be done than to keep the belly open occasionally by some gentle cathartic, and wash off as much of the loose gravelly matter and slime as can be removed by such mild diuretic infusions and decoctions as shall be found to pass freely, and sit well on the stomach.

Persons afflicted with the stone should be careful in respect of their diet, and cautiously avoid all heavy and flatulent food, as well as high fauces that are apt to turn rancid; for the same reason, butter and acids are to be shunned, for these often create heart-burning, and every thing that offends the stomach raises the nephritic pain; such is the sympathy that obtains between the digestive and the uropoietic organs.

There have been surgeons bold enough to think of even cutting into the kidney, in order to extract a stone: this, however, is too desperate a remedy for any reasonable person to propose. But cutting into the bladder for the same purpose, is an ancient and well-known operation, and often crowned with happy success. The writers on the operations of surgery, are those to whom we must refer the reader for descriptions of the different ways of cutting for the stone; and shall only here make this cautioning remark, That a surgeon should never begin this operation until he and his assistants are perfectly satisfied, from actually feeling the stone, that there is one in the bladder: because it has sometimes happened, that when the incision has been made, no stone could be found; and the patient having died in consequence of the operation, and the body being opened, it has appeared that the symptoms which occasioned the belief of a stone in the bladder, arose from some other cause.

We might make further distinctions, or give varieties of both species of lithiasis, by terming them Calculosa and Arenosa, according as
it

it may appear that the distress arises from stones or from gravel; for there are cases wherein there is a frequent discharge of small gravel or sand, and where the earthy matter never unites into such a mass as to constitute what may be called a Stone. These gravelly complaints are mostly found in elderly people; and they require the constant use of sheathing and emollient infusions, because the sandy matter coming away without much intermission, keeps the bladder and urethra in a state of extreme tenderness, and proneness to inflammation.

Nephralgia is the term which is used by Sauvages for those pains which depend on disorders of the kidneys, when there is no inflammation. Of these he has distinguished seventeen species, but only two of them depend on original disorders of the kidney; viz. the *nephralgia calculosa*, and the *nephralgia arenosa*, the rest being either symptomatical, or varieties of the lumbago.

C H A P. X.

Of the Ischuria; its different Species and Varieties, and Methods of Treatment.

THE same author has placed the *ischuria* rather oddly; not among the painful diseases, where one might expect to find it, (there being no cases whatever attended with more severe pain than stoppages of urine,) but in the class of cachexies, and in the order of drop-fies. However, there is ample amends made for this inaccuracy, (if it be one,) by the minuteness of the descriptions of the different species, for which Sauvages acknowledges himself indebted to Dr. Cusson of Montpelier. This gentleman has made no less than forty-four distinctions, or different species of the *ischuria*, and has quoted his authorities for the several histories.

These we recommend to be occasionally consulted, when cases of the *ischuria* occur in practice; for it is not consistent with our limits to give even an abridgment of this part of the *Nosologia Methodica*.

We

We must content ourselves to consider the ischuria only in three points of view: First, when the urine, being stopped either in the kidneys or ureters, does not come into the bladder. Secondly, when, after it has got into the bladder, the urine cannot be discharged thence, on account of stoppages at the neck, or from want of power in the muscular fibres of the coats to overcome that of the sphincter: And, thirdly, when strictures of the urethra, or other obstacles in that canal, hinder the urine from running off. Thus we have three species of the ischuria:

1. *Ischuria renalis*;
2. *Ischuria vesicalis*;
3. *Ischuria urethralis*.

Of each of these we may distinguish different varieties, from the different causes which give rise to the disease.

Of the ischuria renalis, there are,

1. *Ischuria renalis ab inflammatione*.

The signs of this variety, and the method of treatment will be found by recurring to the nephritis.

2. *Ischuria renalis spasmodica*. A suppression of urine is sometimes brought on by a spasmodic constriction of the tubuli uriniferi, in consequence of sympathetic connection, though there be no settled local disorder in the kidneys. This happens in subjects of the hysterical constitution; and is to be known from the circumstances which peculiarly mark this temperament, and from the absence of all signs of stone or gravel, as well as of every sort of external hurt or injury which could raise inflammation in the part affected. These spasmodic suppressions generally yield to opiates, aided by terebinthinate clysters, and the warm bath.

3. *Ischuria renalis mucosa*; when there is such an abundance of mucus thrown into the renal vessels as to hinder the necessary secretion.

tion of urine. This will be known from the small quantity of turbid urine made; while it appears, from the absence of pain, and tension in the region of the pubis, that there is no retention of it in the bladder. An obtuse pain, and heaviness in the loins, the absence of those signs which denote stone or gravel, and the general phlegmatic habit of the patient, will serve to distinguish this variety of the disease; which is to be cured by soap, and the stimulating diuretics, such as the horse-raddish and mustard-seed, together with squills infused in Rhenish wine.

4. *Ischuria renalis calculosa, seu arenosa*; when there are sufficient evidences that the suppression arises from stones or gravel stopping up the passage of the ureter leading from the kidney. If there be no inflammation, the soap and lime water are to be tried, or the soap lees given as before directed.

We are to observe in general, that it is only in cases of partial suppression that there can be much hope of giving relief; for when the stoppage comes to be total, there is scarce any expectation of being able to do service.

It is easy to distinguish the *ischuria vesicalis* and *urethralis* from the *renalis*, by the seat of the pain, which is at the pubis, and by its violence; for, when the urine is retained in the bladder, the distension of the sensible fibres raises a most excruciating pain, together with a constant inclination to make water, and an evident degree of swelling and tension at the lower part of the belly.

The different causes of the *ischuria vesicalis* will make some alterations with respect to the methods which are to be pursued in order to prevent a relapse; but as to the scheme of procuring immediate ease, it is the same in all cases: for, whenever we find that there is a total stoppage, and that throwing up a terebinthinate clyster, fomenting the abdomen, and taking away the proper quantity of blood in such constitutions and cases as demand that evacuation, do
not

not immediately bring on the wished-for discharge, we are not to lose time, but without further delay endeavour to introduce the catheter, and by that means empty the bladder; this being done, the patient is to lie quiet, and, if the intestines have not been already sufficiently unloaded, have a clyster thrown up, and take an opiate.

If in twelve hours the bladder should fill again, and the patient can make no urine, we must not suffer the violent pain to come on, but empty the bladder a second time. After this, we are to regulate our proceedings according to the circumstances of the case.

If the stoppage was brought on by a stone plugging up the neck of the bladder, and which could be shoved back by the catheter, the complaint will probably not return for some time, unless that a considerable degree of inflammation should be raised; and in these cases we are to take all possible precaution to prevent one from ensuing, by pursuing the methods already laid down for the cure of the cystitis. This variety of the disease is termed *Ischuria Vesicalis Calculosa*.

When the retention proceeds from an inflammation at the neck of the bladder, the term will be *Ischuria Vesicalis Inflammatoria*; and the treatment must be according to the antiphlogistic scheme. The attempts in these cases to introduce the catheter must be made with great tenderness; and, when such introduction is found to be impracticable, the only thing left to save life is, to puncture the bladder, either in the perinæum or above the pubis. The former is the most advisable way; and for the methods of performing the operation, we refer to the surgical writers, particularly Sharp, in his Critical Enquiry.

When a spasm of the sphincter occasions the retention, the name of the disease is *Ischuria Vesicalis Spasmodica*. This spasmodic affection is usually brought on by sympathy, from the adjoining rectum or uterus; when the vessels are stuffed up from suppressions of the hæmorrhoidal or

menstrual discharges, or when acrid matters are lodged in either place. The catheter is to be cautiously and gently managed in cases of the spasmodic retention: terebinthinate clysters, with opium; sitting over warm steams, and fomenting the abdomen, will generally give relief.

When the bladder cannot empty itself on account of a paralytic relaxation of its muscular fibres, the disease will be called *Ischuria Vesicalis Paralytica*. This case is not uncommon in aged people. The urine must never be suffered to remain more than twelve hours without being drawn off; or a flexible catheter may be left in the bladder: but when this is done, we are to withdraw the instrument once in every two or three days, in order to clear it from the crust that forms upon that part which lies within the sphincter. The cortex and cold bath are required in these cases, and the tinctura cantharidum is also prescribed: possibly blistering on the os sacrum, might be of use. When the patients recover, which they sometimes do beyond expectation, they are to be extremely cautious of their regimen, should go to bed early, avoid catching cold, make very light suppers, and drink very little in the evenings, lest they should chance to oversleep themselves, and in the mean while the bladder come to be too much distended with urine.

Most of these cases of paralytic retention are the consequences of allowing the bladder to be over-distended, and may generally be traced back to some particular time, when the patient has held in the urine too long. An immediate stoppage sometimes arises from this cause, and then the term is *Ischuria Polyurica*.

When a retention arises from an ulcer at the neck of the bladder, which is known from the seat of the pain, and the purulent urine, it is called *Ischuria Vesicalis Purulenta*. The introduction of detergent bougies, or throwing up injections of the like nature, are the remedies from whence we are to expect a radical cure. A course of sulphureous waters is also serviceable in these cases.

The *Ischuria hysterocystica*, wherein the stoppage is owing to the uterus pressing on the neck of the bladder, being a disease of the third class, the methods of relief will be pointed out when we come to treat of the diseases peculiar to women.

There are several varieties, not less than fourteen of the *ischuria urethralis*, for which we refer the reader to Sauvages. Those which are most commonly met with, are from carnosities or strictures in the urethra, in consequence of repeated venereal injuries, and from a stone impacted and sticking in the passage. The first is termed *Ischuria Carunculosa*; and the second *Ischuria Urethrolithica*. Bougies are the remedies in the one, and cutting out the stone is the way to relieve the other.

In the histories to be found in Sauvages, it appears that the urethra is liable to be stopped up by viscid mucus, by purulent matter, by a membranous substance, and by coagulated blood, as well as to be pressed on by tumors in the perinæum, or in the corpora cavernosa penis; and this is a very distressing variety of the *ischuria urethralis*; which arises from a rupture in the urethra, through which the urine escapes into the scrotum, and other adjoining parts, and swells, inflames, and ulcerates them to a terrible degree: this is termed *Ischuria Hydrocelodes*, the treatment of which is purely surgical, and must be regulated according to the particular circumstances of the case.

CHAP. XI.

Of the Proctalgia; its different Species, and Methods of Treatment.

WE are now come to the last of the painful diseases, the *proctalgia*, or pain about the fundament, and lower part of the intestinum rectum. This may arise from various sources, and therefore requires to be distinguished.

1. The first species of the *proctalgia* is that which arises from inflammation, and therefore it is termed *Inflammatoria*. An inflammation in this part is very apt to terminate in an abscess, which requires to be opened in such a manner as to allow it to be healed up thoroughly from the bottom, otherwise the ulcer will remain open, and the edges grow callous: whence the second species of *proctalgia*, termed *Fistulosa*, seu *Purulenta*, or commonly *Fistula in Ano*.

These fistulæ are not to be radically cured but by cutting away all the diseased part of the flesh and teguments. For the method of doing the operation, we refer to the surgical writers.

In order to palliate matters, and render the pain more supportable, the patient should always have the bowels kept open by means of some gentle laxative, such as electarium lenitivum, with flowers of sulphur; or equal parts of cream of tartar and flowers of sulphur made into an electuary with honey.

3. These laxatives are likewise often necessary in cases of the *proctalgia hæmorrhoidalis*, or piles, as the disease is usually termed; but when the pain is very severe, we must have recourse to topical applications: the juice of the sedum sempervivum beat up with the yolk of an egg, and a grain or two of opium; or a cataplasm of bread and milk boiled up with saffron and the yolk of an egg, will generally be found to give relief: fomenting the anus with these emollient decoctions, or sitting over the warm steam of them, is also recommended; softening liniments likewise, with a due proportion of balsam of sulphur mixed up in them, are of use.

In order to strengthen the parts, and prevent returns of the pain, it will be proper every morning to wash with cold water; as this will brace up the weakened coats of the varicose veins, or harden the fungous excrescences, which (as hath been formerly observed) frequently constitute a *proctalgia*.

4. *Proctalgia cancrosa*. When a cancerous acrimony settles itself at the lower part of the rectum, it constitutes a most dreadful disease,

disease; since little more can be done than to keep the bowels open by gentle laxatives, and to give opiates from time to time. The cicutæ has been known to do service in some cases of the proctalgia cancræ, and therefore ought always to be tried.

5. But sometimes there is an oozing of acrid serum from the lower part of the rectum, which excoriates, and raises intolerable itching and pain. This species is called *Proctalgia Intertriginosa*; and, if obstinate, will not only require the use of cooling washes and liniments, but also alteratives, such as the pil. Ethiopicæ of the Edinburgh Dispensatory, and the aqua calcis magis composita to correct the sharpness, and gentle cathartics to prevent the lodgment of acrid matters. Very often this disease is a consequence of the syphilitic virus, and then there are usually some of those fungous excrescences termed Mariscæ, at the verge of the anus, or dry fissures called Rhagades. In these cases there can be no radical cure without mercurials, as will be shewn in the proper place.

In the following table, the reader will find the several genera, species, and varieties of painful diseases, which have been treated of in this Fourth Book.

GENERAL TABLE OF PAINFUL DISEASES.

GENERA.	SPECIES.	VARIETIES.
I. Gout.	1. Arthritis regularis.	
	2. ——— irregularis.	
	3. ——— complicata.	
		Arthritis rheumatica.
		——— chlorotica.
		——— melancholica.
		——— scorbutica.
		——— syphilitica.
		——— asthmatica.
		——— rachialgica.
		——— exanthematica.
		——— rachitica.

GENERA.	SPECIES.	VARIETIES.
II. Rheumatism.		
	1. Acute.	
	2. Chronic.	
		Rheumatismus dysentericus.
		————— arthriticus.
		————— scorbuticus.
		————— syphiliticus.
		————— hystericus.
	3. Lumbago.	
	4. Sciatica.	
III. Ostocopus.		
	1. Spina ventosa.	
	2. Ostocopus cancrifus.	
	3. ————— syphiliticus.	
	4. ————— ab osteosarcomi.	
	5. ————— scorbuticus.	
IV. Headach.		
	1. Cephalalgia.	
	2. Cephalæa.	
	3. Hemicrania.	
V. Toothach.		
	1. Odontalgia catarrhalis.	
	2. ————— cariosa.	
	3. ————— scorbutica.	
	4. ————— arthritica.	
	5. ————— hysterica.	
VI. Earach.		
	1. Otalgia inflammatoria.	
	2. ————— purulenta.	
	3. ————— verminosa.	
	4. ————— ab intrusis.	
	5. ————— catarrhalis.	

GENERA.	SPECIES.	VARIETIES.
VII. Pleurodyne.		
	1. Pleurodyne plethorica.	
	2. ——— flatulenta.	
	3. ——— à spasme.	
	4. ——— parapleuritica.	
	5. ——— verminosa.	
VIII. Pain in the stomach.		
	1. Pyrosis.	Pyrosis à saburra.
		—— biliosa.
		—— ulcerosa.
	2. Cardialgia.	Cardialgia saburralis.
		—— à veneno.
		—— sputatoria.
		—— bradypeptica.
		—— arthritica.
		—— verminosa.
	3. Gastrodynia.	Gastrodynia ab ingluvie.
		—— flatulenta.
		—— biliosa.
		—— à veneno.
		—— à xiphoide.
		—— ab extraneis.
IX. Colic.		
	1. Flatulent colic.	
	2. Inflammatory colic.	
	3. Bilious colic.	
	4. Iliac passion.	
	5. Nervous colic.	
X. Lithiasis, or stone.		
	1. Lithiasis nephritica.	
	2. ——— cystica.	

GENERA.

SPECIES.

VARIETIES.

XI. Ischuria.

1. Ischuria renalis.

Ischuria renalis ab inflammatione.

_____ spasmodica.

_____ mucosa.

_____ calculosa, seu arenosa.

2. Ischuria vesicalis.

Ischuria vesicalis calculosa.

_____ inflammatoria.

_____ spasmodica.

_____ paralytica.

_____ polyurica.

_____ purulenta.

3. Ischuria urethralis.

Ischuria carunculosa.

_____ urethrolithica.

_____ hydrocelodes.

XII. Proctalgia.

1. Proctalgia inflammatoria.

2. _____ fistulosa, seu purulenta.

3. _____ hæmorrhoidalis.

4. _____ cancrofa.

5. _____ intertriginosa.

A
METHODICAL INTRODUCTION
TO THE
PRACTICE of PHYSIC.
BOOK V.
SPASMODIC DISEASES.

CHAP. I.

Of the Tetanus, Catochus, and Locked Jaw; Descriptions and Methods of Treatment.

THE *tetanus*, which was set down as the first genus of spasmodic diseases, consists in a rigid contraction of the muscles of the trunk of the body, both anterior and posterior, accompanied with severe pain. When the anterior muscles chiefly are in the rigid and contracted state, so as to bend the body forwards, the disease is termed *Episthotonos*, or *Emprosthotonos*; but when the posterior muscles are in a like condition, so as to bend the body backwards, the name is *Opisthotonos*. These may be considered as species of the tetanus, but such distinctions are of no use in practice; we shall therefore only lay down a generical history of the disease, which happily is not often met with in these temperate climates, at least as an original disease: such general spasmodic contractions do indeed sometimes supervene wounds of the tendinous parts, and now and then a degree of opisthotonos is met with in fevers where there is a mixture of rheumatic acrimony.

But the places where these violent spasmodic diseases are most frequent, are the hot climates, and in such of them as are liable to sudden changes from extreme heat to extreme cold, which is the case in some of the southern colonies: in those countries, it is not unusual for the wind, in the heat of summer, to shift suddenly round to the north-west, and then it cools the air all at once, and is productive of many diseases, particularly this which is under consideration; so that the tetanus is reckoned an endemic disease in South Carolina, especially among the Negroes, who are exposed to all the severities of the climate, and to people who incautiously expose themselves to the night air.

The tetanus sometimes attacks suddenly, and then it generally proves mortal in 24, 36, or 48 hours; the person seized seldom surviving the third day, if the symptoms are violent from the very first: but it often comes on gradually; the complaint at first being rather that of an uneasy stiffness in the back part of the neck, and about the shoulders, than an acute pain.

This stiffness increases, and becomes so troublesome when the patient attempts to turn his head, or bend it forward, that it obliges him to walk very erect. He cannot open his jaws without pain, and has some difficulty in swallowing, which discourages him from attempting to eat. At times, he feels a sudden and painful drawing in, under the point of the sternum, which strikes through to the back, and instantly increases the rigidity about the neck and shoulders, draws the head backwards, and shuts the jaws closer. The pain under the sternum returns more frequently, and with greater violence, and the other contractions become so strong, that the head from this time continues much contracted: he now refuses nourishment, as swallowing is attended with great pain, and occasions a return of the spasm, which extends along the spine, quite to the lower extremities, so that the legs can no longer support the body,
and

and the patient is under the necessity of going to bed. In this manner passes over the first stage of the disease, which sometimes takes up three or four days; the patient, as well as those about him, mistaking the first appearance of it, for that trivial rheumatic complaint, which is commonly called a Crick in the Neck. The danger of the disease is to be estimated from the manner of the attack: the more gradual and flow, the better chance the patients have to escape; for if they can get over nine or ten days, they generally recover. Blood, if taken away in this stage, shews no change from the natural state, so that nothing can be inferred from thence; neither is the pulse accelerated, but it is hard, and the belly is always bound.

The painful drawing in under the sternum is the distinguishing sign of the disease; and if relief be not speedily obtained, this severe pain becomes more violent, and returns every ten or fifteen minutes, and, at the same time, the muscles of the neck, and all down the spine, are thrown into strong convulsions; the countenance becomes pale and contracted; the jaws are that moment snapped together, and closed up; and, if attempts are made to force them open, the spasms are thereby hurried on: every hour the distress grows greater; and, toward the close, the miserable patient is on a continual rack, the spasms returning so quick as scarcely to leave the least remission; and, at length, the whole system of muscles swell, and become rigid. But as the posterior muscles of the back are more numerous, and overcome the anterior, the spine is strongly recurvated, and forms a hollow arch with the bed, the patient resting only on the back part of the head, and the heels. In this dreadful situation, (the muscles of the abdomen being so contracted that the bowels are all forced up towards the thorax,) the patient now becomes intensely hot, and lies in a foam of sweat, the pulse being exceedingly quick, strong and irregular, and the heart throbbing so strongly, that its motion may plainly be seen; the jaws are now locked fast, so that it is

impossible to get down any drink; or if it even could be got into the mouth, the wretched patient cannot swallow; at length a general convulsion comes on, and then death soon puts an end to the torture.

There has never been observed any thing like a crisis or favourable termination from the efforts of Nature in these terrible diseases; and therefore all the good that is to be expected must be from Art. Fortunately it has been found, that opium is capable of giving some relief, if the disease be taken quite early, and is not of the most violent kind; but, joined with the opium, the warm bath must be frequently used; the patients must lie along in the bath, and be rubbed while they are in it; and, when taken out, they are not to be dried, but wrapt up in warm blankets, and laid in bed, and while they remain there, the belly must be stuped, and a bladder half full of warm water must lie on the stomach. The belly at the same time must, if possible, be kept open, by solutions of manna and sal polychrest, or some other purging salt, mixed with sweet oil, and quickened with tincture of senna; or, which will probably answer better, the oleum ricini. The opium is to be given in large and repeated doses; for in these cases, it never stupifies. And we are not to trust to the tincture which is kept ready prepared in the shops, but order the necessary dose of solid opium, and then let it be dissolved in some convenient liquid. Where the swallowing is difficult, or the jaws closed up, the opium must be given in clysters, which, during the whole course of the disease, are frequently to be thrown up, and they should contain a proportion of oil; or if turpentine dissolved in yolks of eggs be added, it might be of some use.

From the success of the blue vitriol in the nervous colic, it would be worth while to try its effects in the tetanus, since possibly a collection of acrid bile may in some measure cause the disease; at least there can no harm ensue from this experiment, and in such desperate cases experiments are very allowable.

When

When the patients recover they continue for a long time very relaxed and weak, and no wonder; since it is the nature of all spasmodic affections to leave behind them extreme weakness and relaxation of the muscular fibres: in order to perfect the recovery, a course of the cortex, and the Peruvian balsam, are to be tried, and the spine to be rubbed with spirituous liniments, or with a mixture of rum and Barbadoes tar; but these and all other stimulating things, either internally or externally, during the violence of the spasms, must be omitted, since all of them, as well as blisters, are found to exasperate the disease.

CATOCHUS.—When a general stiffness and rigidity of the muscles prevail, accompanied with insensibility, or without the pain and difficulty of breathing peculiar to the tetanus, the disease is termed *Catochus*.

This is a very uncommon disease, and of the chronic kind, whereas the tetanus is of the most acute nature.

Children and hysterical women appear to be the subjects wherein this disease has been observed. An infant, apparently strong and healthy when it was born, became rigid at a week old, the whole system of muscles appearing to be affected by a spasmodic contraction, accompanied with insensibility; it lay like a corpse, cold, pale, and every now and then a convulsive working of the muscles of the legs and arms came on, which, by twisting the joints, seemed to produce dislocations at the wrists and ankles. Things continued in this state three or four weeks, to the great amazement of every one who saw the child; for it was thought impossible that it could survive, since it had not power to suck, and oftentimes did not swallow such food as was put into the mouth, so that the chief nourishment was from clysters of broth, which were ordered to be frequently injected; but even these were often neglected, because the nurse looked on them, and all other attempts, as vain, imagining that every hour would

would be the last of such a wretched existence: however, contrary to all expectation, the muscles gradually became flaccid, the joints pliable, and the convulsive workings ceased; the child began to feed, and by degrees recovered, grew strong and plump, and the limbs, which every one imagined would remain crooked, (they had been so twisted by the convulsions,) became straight, insomuch that in six months it was as sprightly, and had as thriving a look, as children usually have at that age. It continued to thrive, passed through its teething without much difficulty; was seized with the small-pox, and recovered; but, at last, when about two years old, died of an inflammation in the lungs. This case fell under the inspection of the author.

Sauvages quotes Galen for an observation of the *Catochus*; and also relates a case, from one of the Literary Journals, of a woman about fifty, who for some years was daily seized with a rigid contraction of all the muscles, accompanied with such a profound sleep, that nothing could rouse her. She always remained in this state from sunrise till sunset, then she gradually came to herself, after a convulsive agitation; shed tears; went to stool; took her food, which was wine and biscuit; remained awake the whole night, and at sunrise again relapsed.

The disease which Sauvages terms *Catochus Cutaneus*, ought to be referred to the cachexies, and is also very uncommon. There was one some years ago in Stevens's Hospital, Dublin. The skin gradually becomes hard and shining, like parchment, or the plates of thin horn. Warm bathing and mercurials, with plentiful dilution by whey, and decoction of sarsaparilla, perfected a cure.

And what he calls *Catochus Scorbuticus* also belongs to the cachexies, and may be termed *Sarcostosis*; the muscles become hard, not from spasmodic contraction, but from a degeneracy of their texture, which has been known to become as hard, and of a substance similar

to that of the bones, as appears in the remarkable skeleton of a person named Clark, which is preserved in the Museum of Trinity College, Dublin, and of which there is an account in the Philosophical Transactions.

LOCKED JAW.—That rigid contraction of the muscles, which raise the lower jaw, which is commonly termed the Locked Jaw, is termed by Vogel *Capistrum*, and by Sauvages *Trismus Tonicus*. Trismus being the generical term for spasmodic affections of these muscles.

This disease either arises spontaneously, without any evident cause, or it comes on in consequence of wounds, and such like external injuries; especially where the tendons or ligaments have suffered.

The treatment is the same with that proposed for the tetanus; namely, relaxing fomentations, softening liniments, clysters with turpentine, oleum ricini, and asa foetida; opium in large and repeated doses, and blistering across the throat.

In the London Medical Observations, there are cases of both species of locked jaw,—the primary, and secondary; and as these were treated with success, the reader therefore cannot do better than pursue the methods there laid down; and to which we refer him, as well as for a minute detail of the concomitant symptoms.

C H A P. II.

Of the Hydrophobia, its different Species, and Method of Treatment.

DR. Nugent first pointed out the true nature of the *hydrophobia*, which before his time had generally been considered as an inflammatory disease.

Sauvages has placed it with the *vesariæ* or mental diseases, but improperly; for the distinguishing symptoms are different from what are observed in any species of madness, and, at first, the patients are seldom delirious: the snapping, which is observable in the hydrophobia, and which is generally considered as an attempt to bite the attendants, is an involuntary motion of the jaws, such as is observable in the tetanus; and so far are the unhappy patients from desiring to bite those about them, that they generally, in the intervals, warn the bystanders to keep off.

The hydrophobia is either an original disease, arising spontaneously, or it comes on in consequence of the bite of some mad animal; the latter species is the one most frequently met with, and seldom appears until after three or four weeks from the time of being bitten; it is observable, however, that the nearer the place bitten is to the salivary glands, the sooner the symptoms of the hydrophobia appear.

A few days before these symptoms come on, the patient grows languid, dull, and restless, with great oppression, and frightful dreaming; then, all of a sudden, for the most part, pains begin to shoot from the place where the skin was torn, all along up to the throat, where it causes a straitness and sensation of choaking, with a total inability to swallow liquids.

This inability to swallow liquids is not always attended, from the first, with a dread of them: for some patients have been observed to

be extremely desirous to drink, and have tried a variety of ways, and put themselves into different postures, in order to accomplish it: but Dr. Nugent's patient had so great a dread, that she could not bear to hear even the noise of falling-water, much less endure the sight of it. The spasms in the hydrophobia, which at first appeared to affect only the muscles of deglutition, as the disease advances, go on to affect other parts of the muscular system, and produce many symptoms, like what are seen in the tetanus; and in men of strong constitutions, it is usual for a priapism, or even satyriasis, to come on.

The cure of this dreadful malady must be attempted on the same principles as that of the tetanus; namely, to take off the spasm by large and often-repeated doses of opium; and, if warm steams could be conveyed into the fauces, by keeping sponges dipt in hot vinegar perpetually applied to the mouth and nostrils, it might be of service. Dr. Nugent's patient was largely blooded, and took moreover large quantities of musk and cinnabar, as well as opium; and, toward the close of the cure, opium was given along with camphor, musk, and asafoetida. But the opium is what we are chiefly to rely on. It ought therefore to be given as soon as possible, and in both ways, by the mouth and by clyster, and it should be applied externally in plasters, liniments, or cataplasms.

After a person has been bitten by a mad animal, the most probable method of securing against the hydrophobia appears to be, the rubbing in some mercurial ointment gradually, so as to raise a slight salivation, which must be kept up for some weeks. Bathing in the sea, and taking the pulvis antylissus, have been often found insufficient, as we see particularly in the case of Elizabeth Bryan, related by Dr. Nugent, in his Essay on the Hydrophobia, to which we refer the reader.

The hydrophobia, as hath been already mentioned, has been known to come on spontaneously; we shall also sometimes meet with

an inferior degree of it in hysteric cases, wherein the patients, finding much difficulty in swallowing, can hardly be prevailed on to take any liquid.

C H A P. III.

Of Convulsions, Epilepsy, Eclampsia, and Hieranosos; different Species, and Methods of Treatment.

IN the spasmodic diseases which have been already treated of, the muscles, for the most part, continue in a state of contraction, whence they are termed *Tonic*; but in the four genera that remain to be described, there is a violent working or agitation, and Nature seems endeavouring to expel, or shake off somewhat that offends her; hence these are called *Clonic Diseases*.

In common language, all the various species of clonic diseases are termed *Convulsions*; but here we are to understand by this name, only that general convulsive-working of the muscles, which invades accidentally the patient remaining sensible. Sauvages has made sixteen distinctions of convulsions, which practitioners will find useful to consult occasionally; but we shall mention only a few.

1. *Convulsio ab inanitione*. After profuse discharges or evacuations, convulsions are apt to succeed; and in these cases, the convulsive-workings appear to be the efforts of Nature to prolong life, by forcing the blood, which is stagnant in the small vessels at the circumference of the vascular system, in upon the larger ones at the center.

In these circumstances, pharmaceutical remedies are of no use; but we are to endeavour to fill the vessels, and repair the loss of animal fluid, by frequently giving light broths in such quantities as the stomach will bear.

2. *Convulsio traumatica*. When convulsions succeed wounds, or other external injuries, we are, after plentiful bleeding, according to the circumstances of the case, to apply emollient cataplasms, relaxing fomentations,

fomentations, and liniments; to empty the bowels by clysters; and give opiates joined with other powerful antispasmodics, such as musk, and asafoetida.

3. *Convulsio verminosa*. Worms are a frequent source of convulsions, especially in young subjects; and when there are sufficient evidences that the disease arises from this source, recourse must be had to anthelmintics, as in other worm cases.

4. *Convulsio plethorica*. In habits that have been accustomed to periodical discharges, when these are obstructed, convulsions sometimes succeed: the cure is to be attempted by proper evacuations, and restoring the discharge to its natural order; on this principle it is, that convulsions often cease upon the first breaking out of the menstrua in young girls.

Epilepsy.

The *epilepsy* differs from a convulsion in its being accompanied with total insensibility; in its returning periodically, though not always at regular intervals; and in its being a chronic disease, that often lasts for a number of years without destroying life.

Persons afflicted with the epilepsy fall down suddenly, deprived of all sense, like those who are struck with an apoplexy, but they do not, like these, lie quiet, as if in a profound sleep; on the contrary, the whole muscular system is agitated by such violent convulsive motions, that it is scarcely possible for the bystanders to keep the patients from hurting themselves; and if the tongue happens to get between the teeth during the violence of the paroxysm, it will be torn, or perhaps a piece of it shall be bitten off.

The force of the convulsion is sometimes so very great, that the urine, feces, and semen, are forced out from their several repositories, and blood will ouze from the vessels in the nose and ears; and even in the more moderate degrees of epilepsy, there is always a good deal of froth forced out from the mouth.

The duration of the fit is various; but when the violent working ceases, the patients lie quiet, as if asleep, then, after an hour or two, they recover their senses, know nothing of what has passed, and feel extremely sore and fatigued.

The total loss of sense is what distinguishes the true epilepsy; and, by attending to this circumstance, we may always be able to know whether the disease be counterfeited; which impostors in military hospitals, and vagabonds, to extort charity, are often found to do: these may be detected, by applying somewhat extremely stimulating to the nostrils, such as the strongest spirit of sal ammoniac; or by slightly puncturing some very sensible part.

It is generally supposed, that the change and full of the moon have some influence in bringing on the fits: this, however, is much to be doubted; but it is certain, that excesses of every kind, whether in respect of diet, exercise, or the passions of the mind, are extremely apt to accelerate the return of the paroxysm.

Few diseases are more capable of being transmitted from parents to their offspring than the epilepsy; it has also been known to take its rise from severe frights during the earlier periods of life. Dr. Locker, physician to the hospital of St. Mark at Vienna, relates, That out of fourteen epileptic patients in that house, he found there were six of them wherein the disease had ensued from frights; one case, wherein it appeared to be the consequence of a blow on the head; another, where it arose from a sudden stoppage of the menses; but in the remaining six, the source could not be traced.

If an epilepsy, which has begun during childhood, does not go off upon the changes that happen in the constitutions of both sexes about the age of puberty, we may consider it as likely to endure for the remainder of life.

The dissection of epileptic subjects has shewn a variety of morbid appearances, which may be supposed to have contributed to the
disease;

disease; such as, indurations in the brain or meninges; caries of the internal surface of the cranium; projections of the boney substance of the cranium, pressing upon the brain; collections of serum, or purulent matter, and earthy concretions within the skull, besides many others which are recorded by Bonetus, Morgagni, and Lieutaud.

The methods of cure which sometimes succeed in the epilepsy, are chiefly empirical, and different things have, from time to time, been cried up as remedies; particularly the human skull, and the moss growing thereon; the ungula alcis; mistletoe of the oak; the oleum animale; and of late the leaves of the orange tree; a handful boiled in a pint of water for two doses of decoction, or, in substance, half a dram powdered, twice a-day, are said by the physicians at Vienna to be specifics in this disease. The blue vitriol, in doses of a grain or two, has sometimes done service; the cortex and valerian, joined with cinnabar, and made into an electuary, has been found to check the progress of an epilepsy for some time; and, in convulsive cases of less inveteracy, will bid fair to do lasting service.

Courses of different mineral waters, according as they shall be found to agree best; goat's whey; sea-water, with cold bathing; perpetual issues between the shoulders; seton in the neck; gentle purgatives from time to time to prevent costiveness, and emetics to hinder the accumulation of saburra; bleeding occasionally, as the habit may chance to require it; all these will be found of use in different subjects, to palliate and moderate the violence of the fits. The diet also is to be light, and not stimulant; and the mind should be kept as free as possible from the disturbance of unruly passions.

During the fit, all attempts to shorten it, or abate the violence of the convulsion, are generally found ineffectual; therefore, it is best to do nothing more than prevent the patients from bruising themselves, and especially to take care lest the tongue get between the teeth.

It

It seems of very little practical use to distinguish the epilepsy into different species; although Sauvages makes fourteen, to whom we refer. The *epilepsia uterina*, or hysteric epilepsy, is the only one that requires much notice.

This is peculiar to women of the hysteric temperament; and may be distinguished from the true epilepsy, by the sex of the patient, and the known prevalence of hysteric symptoms of other kinds, previous to the convulsive attack. Though the patient is suddenly seized, and falls down as in the true epilepsy, and the violent struggling is equally great, yet the degree of insensibility is seldom altogether so complete. The patient generally shrieks, laughs, or utters some incoherent words during the fit. Obstructed menstrua is the usual source of the *epilepsia uterina*, and the fits usually come on about the time the menses should appear.

Eclampsia.

The *eclampsia* differs from the epilepsy in its being only a transitory paroxysm, and not liable to return periodically, or continue for a length of years. The appearances during the fit are precisely the same, the convulsive-working is equally strong, and the degrees of insensibility as great as in the epilepsy.

It seems doubtful whether this ought to be considered as a distinct genus; because of the whole seventeen species which Sauvages hath distinguished, there is scarcely one that is not symptomatical or secondary, supervening some other disease. His distinctions will nevertheless be found satisfactory, when cases of this sort occur in practice.

Hieranosos.

But the *hieranosos*, or *morbus sacer*, so called, as being vulgarly supposed to arise from witchcraft, or some extraordinary celestial influence, is a distinct genus of disease, though a very uncommon one. The author once had an opportunity of seeing a case. The
patient

patient was a lad about seventeen, who at that time had laboured under this extraordinary disease for more than twelve years. His body was so distorted, and the legs and arms so twisted round it, by the continued convulsive-working, that no words can give an adequate idea of the oddity of his figure; the agitation of the muscles was perpetual; but in general he did not complain of pain nor sickness; and had his senses perfectly, insomuch that he used to assist his mother, who kept a little school, in teaching children to read.

The *chorea sancti viti*, seems to be an inferior degree of the hieranofos.

GENERAL TABLE OF SPASMODIC DISEASES.

GENERA.	SPECIES.
I. Tetanus.	1. Episthotonos. 2. Opisthotonos.
II. Catochus.	
III. Locked jaw.	1. Spontaneous, or primary. 2. Secondary.
IV. Hydrophobia.	1. Spontaneous. 2. Secondary.
V. Convulsion.	1. Convulsio ab inanitione. 2. ——— traumatica. 3. ——— verminosa. 4. ——— plethorica.
VI. Epilepsy.	
VII. Eclampsia.	
VIII. Hieranofos.	

patient was a lad about fourteen, who at that time had laboured under the extraordinary attack for more than twelve years. His body was so distorted, and the legs and arms so twisted round, by the continued convulsive exertions, that no words can give an adequate idea of the oddity of his figure: the action of the muscles was perfectly lost in general; he had no command of hand or foot, and had no mental powers. He was a day or two used to this condition, when he was taken to a public school, in teaching children to read.

The above facts only seem to be an inferior degree of the disorder, which in some cases is attended with more violent and dangerous symptoms.

GENERAL TABLE OF EPASMODIC DISEASES

GENERAL DIVISIONS.

- I. Tetanus.
 1. Epithymus.
 2. Opisthotonus.
- II. Calculus.
- III. Epilepsia.
 1. Epilepsia, or primary.
 2. Secondary.
- IV. Hydrophobia.
 1. Spontaneous.
 2. Secondary.
- V. Convulsiones.
 1. Convulsio ab insana.
 2. Convulsio ab insana.
 3. Convulsio ab insana.
 4. Convulsio ab insana.
- VI. Epilepsia.
- VII. Epilepsia.
- VIII. Epilepsia.

A
METHODICAL INTRODUCTION
TO THE
PRACTICE of PHYSIC.
BOOK VI.
INABILITIES AND PRIVATIONS.

CHAP. I.

*Of the Comata, or sleepy Diseases; different Species, and Methods
of Treatment.*

THE writers are not well agreed about the ways of distinguishing the sleepy diseases. Sauvages makes *coma* an order, and divides it into seven genera; of which he distinguishes no less than sixty-five species. This minuteness, however, is not necessary here, and rather tends to embarrass the student. We therefore consider *coma* as the genus, and distinguish only four species; the *apoplexy*, *carus*, *lethargy*, and *catalepsy*.

I. The *apoplexy* is a sudden privation of all the powers of sense and voluntary motion; the joints remaining flexible, and the muscles flaccid; the person affected seeming to be in a most profound sleep, accompanied with a sonorous breathing, or snoring.

II. The *carus* is a most profound and quiet sleep, protracted beyond the natural and healthy period, from which the patient cannot be roused.

III. The *lethargy* is an imperfect apoplexy, or carus; wherein the patient may be roused, but immediately falls asleep again.

IV. The *catalepsy* is a state of utter insensibility; the muscles nevertheless still retaining so much of their power, as to preserve the limbs in whatever posture the bystanders chuse to place them.

Apoplexy.

We shall know a fit of the *apoplexy* from that of swooning or fainting, by observing the pulse and the respiration. In apoplectic cases, the pulse at first is always strong and full, the breathing rather high, and generally accompanied with snoring; the countenance flushed for the most part, but always looks full, and feels warm; whereas, in cases of fainting, the pulse is either greatly weakened, or not to be felt at all; the breathing is not observable, the countenance falls, the redness forsakes the lips, and the flesh feels cold.

On being called to visit persons struck with an apoplexy, we should always make strict enquiry into every thing the patient had been doing, or taking previous to the attack, as well as into the particular circumstances relating to the constitution or habit of body, from whence we may be enabled to form a proper judgment of the case.

In general, the apoplexy seizes people who are rather advanced in life, inclined to corpulency, with short necks, and who indulge too much in the pleasures of the table, without taking proper exercise; and the dissections of subjects who die of this disease, for the most part, shew, that the brain has been oppressed, either by blood or serum; whence the distinctions of the apoplexy into Sanguineous and Serous.

The *apoplexia sanguinea* is supposed to attack more suddenly than the serosa, without much previous oppression, or unusual sleepiness; the face appears red and flushed, the veins turgid, the eyes half open, but not transparent; the respiration tolerably free, though accompanied with snoring or rattling in the throat, and the pulse full and strong.

The *apoplexia serosa* is apt to be preceded by an unusual heaviness, giddiness and drowsiness; and, after the stroke, the face is not remarkably

remarkably red nor flushed; the veins are not turgid, the respiration is more straitened, and there is more of the rattling and snoring, with a working of froth from the mouth; the pulse is not strong, nor remarkably full, and inclines to intermit.

There have been instances where an apoplectic fit has wrought itself off by an effort of Nature; and where a profuse spitting, a bleeding at the nose, or a plentiful diarrhoea, have saved life: but in general the patients are beholden to Art for their preservation.

Of whatever nature the apoplexy may be deemed, it demands the most active endeavours to give relief, and remedies that shall operate immediately. We must instantly bleed, and that largely; unless it shall appear that the patient is of a very weakly habit, with solids relaxed, and fluids exhausted, the disease also having made its approaches gradually. It is best at first to open the veins of the arm, then, if relief is not immediately procured, put the feet into warm water, and open the saphæna. The quantity of blood to be drawn must be regulated according to the signs of fulness; if the patient be very plethoric, the bleeding must not only be large, but it must be repeated; and cupping-glasses, with deep scarification, must be applied to the back part of the head, with a view to empty more particularly the occipital veins, which having a communication with the lateral sinuses of the dura mater, will more immediately contribute to unload the arteries of the brain.

When the patient shall be so far revived as to be able to swallow, a strong purging potion of the tinctura sacra, quickened with two or three drachms of tinctura jalapii must be poured down; but if, notwithstanding the bleeding, there should be no signs of recovery, then acrid clysters, prepared by boiling colocynth in the decoction, and adding tinctura veratri, and oleum ricini, must be thrown up without delay. And if none of these means should rouse the patient, blis-

ters must be laid to the legs and thighs, or an actual cautery applied to the soles of the feet.

These are the means to be used when there are sufficient reasons to think, that the vessels of the brain are overloaded with blood; but when it is more likely that an accumulation of serum is the cause of the disease, then we are to be moderate as to the bleedings, or perhaps not bleed at all. And instead of this mode of evacuation, give some brisk emetic, such as the sal vitrioli, emetic tartar, or antimonial wine. If the emetic operates, and the patient is revived by it, we are to go on and empty still further, by cathartics, such as have been already mentioned, and apply blisters with a view to rouse and stimulate; as also to give proper doses from time to time of the volatile alkaline spirits, in order, if possible, to raise some degree of fever, which will forward the absorption of the stagnant lymph. Errhines, to provoke sneezing, are also supposed to be of use in the apoplexia serosa; whereas in the sanguinea, neither they nor emetics are to be used, for very obvious reasons.

If the patient can be brought to himself within the first four days, there may be hopes of a complete recovery, and we are to settle a proper scheme of conduct for the prevention of future attacks; but if there be no remarkable amendment within the time above mentioned, there is but little hope of shaking off the disease, which will either destroy life immediately, or terminate in an incurable palsy.

In plethoric habits, care must be taken that the vessels do not become too full of blood; for which reason, the meals are to be light and sparing, and the food chiefly of the vegetable kind; the patient should use brisk exercise, and not be allowed to indulge in bed, nor sleep more than six or seven hours at a time; should lie with the head raised, and in a thin night-cap; the belly is to be constantly kept open; and care must be taken particularly with respect to all other natural and habitual discharges, lest any of them be suppressed

by exposing the body to cold or wet, especially in the feet, which ought also to be well rubbed every night before the patient goes to rest.

In phlegmatic habits, where the solids are weak or relaxed, with inferior degrees of sensibility, a return of the disease will be best prevented by perpetual issues or setons, by emetics and cathartics, repeated at proper intervals; by a course of chalybeate waters, and by brisk exercise with dry frictions, and by the use of stimulating attenuants, such as mustard-seed, roots of horse-raddish and squills, combined with the flores martialis, and the gums, ammoniacum, galbanum, and myrrh.

Beside the sanguineous and serous apoplexies, which are primary diseases, there are other varieties, which, though they be considered only as secondary, deserve to be noticed; as, the *apoplexia traumatica*, from blows on the head, or from falls occasioning a concussion of the brain. These cases require very large and repeated bleedings, and brisk purging. And,

Apoplexia temulenta, from excessive drinking, or taking too much opium. The remedies in these cases are acids, such as juice of lemons or vinegar. These are to be poured down the throat, when the patient can be roused so as to swallow them.

Carus.

The treatment of the *carus* is to be conducted on the same principles just now laid down for the apoplexy; and according as we may have most reason to suspect an over-fulness of the blood vessels, or an accumulation of serum within the cranium, we are either to depend chiefly on large and repeated bleedings, or on blistering and other stimulants.

Lethargy.

And as to the *lethargy*, which is rather an inferior degree of apoplexy or *carus*, than a distinct species of disease, nothing further need be added respecting the methods of cure.

Catalepsy.

Catalepsy.

The *catalepsy* is a disease that very rarely occurs. The remedies proposed for relieving it are the most active nervous stimulants and strengtheners, emetics and brisk cathartics, with blistering and cupping; and the methods of administering these are laid down in Hoffman, to whom we refer the reader, if he should ever happen to be consulted in a case of this sort.

C H A P. II.

Of the different Degrees of Palsy, and Methods of Treatment.

IN *palsies*, though there may be a great diminution, or even total loss of the powers of voluntary motion, and external sensation, yet the internal senses remain, and these sometimes not much impaired.

In the most violent degrees of palsy, the patient loses both the power of motion and sense of feeling, either of one side or of the lower half of the body. The first case is termed *Hemiplegia*, the latter *Paraplegia*.

Palsies, for the most part, supervene the different species of coma, especially the apoplexy. They also succeed the nervous colic, as hath been formerly shewn, and are apt to proceed from venereal excesses, especially in elderly men; the fumes of certain metallic substances, particularly lead and quicksilver, are also known to bring on palsies.

The most common species is the hemiplegia; and this is usually the consequence of an apoplectic stroke. It is not uncommon to see patients live for several years in the paralytic state, especially if it be the hemiplegia: and even in the paraplegia, if death does not ensue within the first two or three weeks, it may not take place for a considerable time.

It

It is a promising circumstance in paralytic cases, when the patient feels a light degree of painful itchiness in the affected parts; and if a fever should arise, it bids fair to remove the palsy.

When the sense of feeling remains, there is much more room to hope for a perfect recovery, than in cases where the powers both of motion and sensation are lost; but when we observe the flesh to waste, and the skin to appear withered and dry, we may look on the disease as quite incurable. The palsy sometimes ends in a mortification; and convulsions, for the most part, coming on before death, puts an end to the misery of the patient.

The dissection of morbid bodies, beside the appearances found in apoplectic subjects, has shewn, that in some who have died of inveterate palsies, the spinal marrow has been either wasted, or soaked in purulent matter.

There have been many things recommended as remedies in this disease; but it must be confessed that they are only the slighter degrees of palsy, which readily yield to medicine; and before any scheme of cure be fixed on, every circumstance relative to the patient's habit of body, and previous state of health, should be carefully weighed.

If an hemiplegia or paraplegia should supervene an apoplexy, in constitutions that give reason to suspect the blood to be in a state of too great viscosity, a course of the attenuant gums, with fixed alkaline salts, and chalybeate waters, may be found to do service; to which it will be proper to add, frictions with the volatile liniment, all down the spine; but in habits where the blood is rather inclinable to the watery state, it will be necessary to give emetics from time to time; to apply blisters and cut issues, or make a seton.

The natural hot baths are often found useful in paralytic cases; and where the patients cannot avail themselves of these, an artificial bath

bath may be tried, by dissolving salt of steel in warm water, and dashing it on the paralytic limbs; dry frictions also, or scourging with nettles, are recommended, and may do service.

The electric shock has likewise been known to forward the recovery, and may be tried with safety; but it is chiefly in cases of local paralysis that we are to expect much from this last mentioned remedy.

When palsies succeed other diseases than the apoplexy, the methods will require to be somewhat varied according to the nature of the primary disease, whether it be rheumatism, scurvy, scrofula, lues venerea, or nervous colic.

There is no great necessity for making more distinctions of the palsy than those above mentioned: if the reader is desirous of seeing more, he may consult Sauvages.

C H A P. III.

Different Species of Fainting, and Methods of Treatment.

WE may distinguish three species of fainting:

I. *Leipothymia*; wherein there is a sudden and total failure of strength, but the patient does not entirely lose all sense; and though there be coldness and paleness, yet the pulse continues to beat.

II. *Syncope*; wherein there is a sudden and total loss of all the powers of sense and motion, with coldness and paleness, and a suspension of the subsultory motions of the heart and arterial system; but the patient does not remain long in this state, death either ensuing, or a revival.

III. *Asphyxia*; wherein there are the same appearances as in the syncope, but of much longer duration; the patient all the while lying like a corpse.

Here

Here we are to call to mind what was said in the theoretical part, concerning the motions of the heart and arterial system; namely, that there is not only a systaltic motion, or simple contraction and dilatation, but that there is moreover a subsultory motion, which causes the beating of the heart, and contributes to the pulsation of the arteries.

As we cannot suppose life to subsist without some freedom of circulation, so in cases of syncope and asphyxia, it is presumed that the blood is carried through the vessels merely by the systaltic motion; and that the subsultory is suspended during the time that people remain in a fainting fit.

Each of the three species of fainting may proceed from various sources; whence different varieties, which may require some difference in the treatment.

The *leipothymia* is sometimes the consequence of violent passions of different kinds, but it proceeds much oftener from somewhat offensive in the stomach.

When persons of a full habit faint through excess of passion, they ought to be bled without delay, and should drink vinegar or lemon juice diluted with water; and, after the bowels are emptied by a clyster, take a paregoric draught, and go to bed.

The passion of anger, in a peculiar manner, affects the biliary secretion, causes an oppression at the stomach, with nausea and retching to vomit, and a bitter taste in the mouth, with giddiness of the head: these symptoms would seem to indicate an emetic, which, however, in these cases must be carefully avoided, as it might endanger the patient, by bringing on an inflammation of the stomach.

The general effects of a sudden fright have been mentioned on a former occasion. When these are so violent as to require medical aid, our first endeavours must be to take off the spasmodic constrict-

tion, and restore freedom to the circulation; by bleeding, if the habit be at all inclined to fulness; and by giving a mixture, with equal parts of the vinum antimoniale, and elixir paregoricum, in some agreeable vehicle, which will bring on sleep and encourage perspiration. It was formerly mentioned, that convulsions, or even an epilepsy, may be brought on by frights, which should make people cautious of playing foolish tricks in this way.

When a surfeit, or any species of saburra, occasion a leipothymia, an emetic is the immediate remedy, so soon as the patient, by the help of acrid stimulants, shall be so far roused as to be able to swallow one: in these cases, tickling the fauces with a feather dipt in spirit of hartshorn, will be proper, not only to rouse the patient, but also to bring on vomiting.

A *syncope* is most commonly brought on by profuse discharges or evacuations, either of blood or of the secreted humours.

In order to revive the patients, they ought to be laid along in a horizontal posture, in an airy place; the legs, thighs, and arms, are to be rubbed with hot flannels, very strong vinegar, or, which is better, the salt of vinegar; or, if this is not at hand, salt of hartshorn, or the spirit of that, or of sal ammoniac, are to be held to the nostrils, and rubbed into them, or properly diluted poured into the mouth; cold water is to be sprinkled on the face and neck; and when by these means the patient shall be sufficiently revived, then hot wine, boiled up with spices, is to be given in proper quantity, and afterwards broths or light jellies, and the like sort of nourishment.

When a *syncope* is the consequence of an over-dose, either of an emetic or cathartic, the tinctura thebaica, mixed with hot wine, is the most speedy and efficacious remedy; but the opiate must be given gradually, five or six drops every half hour, till it produces the desired effect.

A *syncope*,

A syncope, or even asphyxia, wherein the patient shall lie for several hours, is frequent in hysteric constitutions, and then, during the fit, requires fetid antispasmodics, together with the acrid stimulants: to prevent returns, nothing answers better than the cortex joined with chalybeates. But this being a disease to which women are peculiarly subject, we shall not enter fully into the consideration of it at present.

It is not of much practical use to enter into the distinctions of syncope; of which Sauvages makes no less than twenty-one, besides two of the leipothymia, and seventeen of the asphyxia.

Neither is it necessary to spend much time about the *asphyxia*, since the methods of treatment may be collected from what has been already said: to which we may add, that in cases of *syncope à méphitide*, or those sudden faintings and suffocations that are caused by going down into wells or vaults that are full of that noxious kind of vapour, which, on other occasions, is termed *Fixed Air*; the only way to save life is, to drag the body out into the fresh open air, and dash cold water on it; rub vinegar to the nostrils, and if possible pour it down the throat; the *syncope à fumis*, from being shut up in a room, where charcoal is burning; and the *syncope à musto*, which is brought on by going into cellars full of liquors in high fermentation, are to be treated precisely in the same way.

Drowned persons are sometimes, though but very rarely, recovered, by rubbing the limbs and trunk of the body with hot salt, or ashes; by blowing into the anus, or into the trachea, all with a view to put the blood, which is stagnating in the large vessels adjoining the heart, into motion, and if possible stimulate this muscle to renew its systole: veins at the same time must be opened in such places as are most likely to yield blood.

People who have been hanged, or strangled, if the vertebræ of the neck happen not to be dislocated, have sometimes been brought to
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life by immediate bleeding and rubbing, as before mentioned, to put the blood in motion.

Life very often concludes by fainting, and then there is no struggle, nor appearance of painful suffering; neither is there probably any distress when people die comatose; but when they die convulsed, or go off in a suffocation, then we may suppose that the anguish of a dying person must be very great. In one or other of these four ways, all diseases whatever finish their course, when their termination happens to be fatal.

GENERAL TABLE OF INABILITIES AND PRIVATIONS.

GENERA.	SPECIES.	VARIETIES.
I. Coma.	1. Apoplexy.	Apoplexia sanguinea. ————-- serosa. ————-- traumatica. ————-- temulenta.
	2. Carus.	
	3. Lethargy.	
	4. Catalepsy.	
II. Palsy.	1. Hemiplegia.	
	2. Paraplegia.	
III. Fainting.	1. Leipothymia.	
	2. Syncope.	
	3. Asphyxia.	

A
METHODICAL INTRODUCTION
TO THE
PRACTICE of PHYSIC.

B O O K VII.
ASTHMATIC DISEASES.

C H A P. I.

*Of the Dyspnœa, Orthopnœa, and Asthma; different Species, and
Methods of Treatment.*

Dyspnœa.

BY the term *dyspnœa* we intend an habitual difficulty of breathing; which, as it may proceed from a variety of sources, may be distinguished into a number of species: as,

1. *Dyspnœa pituitosa*; when the cellular part of the lungs is overloaded with a serous fluid, arising from a dropical habit, and failure of power in the valvular lymphatics, to absorb the lymph from the cellular system. This disease will be known by the pale and bloated look of the patient; by the swelled legs; small quantity of urine; weak pulse; general chilliness, and feebleness. The things which bid fairest to give relief are the attenuant gums, with soap, squills, horse-raddish root, and mustard-seed, and a small proportion of emetic tartar, or some other antimonial preparation. Blistering on the legs is also found to give immediate ease in this species of the dyspnœa.

2. *Dyspnœa*

2. *Dyspnœa à tuberculis*; when shortness of breath arises from tubercles, as they are termed, or a scirrhous enlargement of the lymphatic glands, which are dispersed through the lungs. This species is commonly found in scrofulous habits, and may be distinguished by the concomitancy of those external swellings and appearances which particularly mark the scrofula.

This species of dyspnœa generally ends in a pthisis. Courses of goat's whey, and of sea-water, have been known to do service; but it must be confessed, that a perfect cure is seldom obtained. Setons or issues are of use in these cases, as they appear to prevent the ill effects of an overfulness, if it should happen at any time to supervene.

3. *Dyspnœa calculosa*, from earthy concretions formed in the lungs. The spitting up of these substances is the only thing that can enable the physician to distinguish the species. Perhaps a course of soap and lime-water might do service in these cases.

4. *Dyspnœa physconialis*. A shortness of breath must necessarily follow a distension of the abdomen, from whatever cause this may happen to arise; and the methods of relief must be adapted according to the nature of the physconia, which oftentimes is not easy to determine.

5. *Dyspnœa scorbutica*. When shortness of breath proceeds from a scorbutic acrimony, the cure must depend on that of the original disease; and will be laid down in its proper place. The presence of the other symptoms, which particularly mark the putrid scurvy, will serve to distinguish this species of the dyspnœa.

Orthopnœa.

By the term *Orthopnœa* is meant an accidental, and extreme difficulty of breathing, independent of inflammation. It differs from

dyspnœa, in being an acute disease, which soon terminates either in death or recovery; and from the asthma, in not returning periodically.

We are to distinguish two species of orthopnœa:

1. That which is *idiopathic*, and depends on disorders immediately affecting the lungs; and,

2. That which is only *sympathetic*, and arises from some remote nervous disturbance, producing difficulty of breathing through sympathy.

There are two principal varieties of the *orthopnœa idiopathica*; namely, the diseases termed *Catarrhus Suffocativus*, and *Peripneumonia Notha*.

CATARRHUS SUFFOCATIVUS.—The *catarrhus suffocativus* is supposed to consist in a spasmodic affection of the bronchia. This disease is often met with in children, and in some seasons is epidemical; but it usually proves fatal before medical assistance can be had.

The attack is violent and sudden, and generally in the night: this circumstance, together with a particular sort of shrill croaking, which accompanies the quick and difficult breathing, may serve to distinguish this disease from an inflammation of the lungs, which always comes on more gradually, and is not accompanied with this kind of noisy respiration.

It is of much consequence to make this distinction, because bleeding does harm; and the only prospect, when aid is called in time, is from blistering the back, injecting clysters with asafœtida, and pouring a solution of the same gum down the throat. These remedies may sometimes happen to save life. Afterwards, when the violence of the paroxysm abates, the cortex is to be given freely, in order to prevent a relapse. Dr. Millar, in his late observations

on

on the asthma, says, That in these cases he has given, by the mouth, to the quantity of an ounce of asafoetida, in the space of forty-eight hours, to a child of eighteen months old; and, during the same time, has injected almost as much by clyster, allowance being made for the residuum which was left in making the solution. We have not yet found any patient, so young, who could be got to take such a quantity of this medicine in a like space of time; but can vouch for its good effects, though given in smaller doses than what the gentleman abovementioned proposes.

PERIPNEUMONIA NOTHA.—The *peripneumonia notha*, or bastard peripneumony, is a very different distemper from the *peripneumonia vera*; for there is neither extraordinary heat, pain, nor thirst; and whereas the true inflammatory peripneumony generally attacks the robust, vigorous, and active, and is most frequent in cold dry weather, during north-east winds, and high stations of the barometer; so this bastard peripneumony commonly seizes the old and phlegmatic, the weak and lax, the fat and unwieldy, and is most rife in wet and flabby situations, and in foggy weather, and winter seasons. All which circumstances point out, as the cause, an accumulation of serum in the cellular cavities of the lungs; whence great oppression on the air-vessels, and some degree of obstruction in the pulmonic and bronchial arteries, thereby hindering the free and regular circulation of the blood.

This is a disease which is always extremely dangerous, and requires the utmost circumspection in regard of the prognostic that is to be made; as the mildness of the symptoms, at the beginning, are too apt to mislead both the patient, and those who have the care of his health. For, as the accumulation is formed among the inert solids, the symptoms do not appear very distressing till it is generally too late to remedy them; and there can be no hope of a resolution of the offending matter, since there is no way for it to be carried off from the cells where it stagnates, but by the absorbent
veins,

veins, and it is generally too viscid to be taken up by such slender vessels. Whereas, if the morbid matter were mixed with the circulating fluids in the bronchial or pulmonary blood-vessels, then there might be some chance of its being thrown off in the way of expectoration, or some other critical discharge.

Writers, from not making the necessary distinction between the cellular and the tubular part of the lungs, and by supposing that the offensive matter in the bastard peripneumony chokes up the extremities of the pulmonary artery, have confounded the theory of this disease; since the symptoms cannot be satisfactorily accounted for on the supposition that the morbid matter is lodged in any other place than the cellular interstices; whereby it presses both upon the air-vessels and the blood-vessels, hindering the first from being fully distended with air, and the last from transmitting the blood.

The progress of this disease is thus described by Sydenham: The patient grows hot and cold alternately; is giddy, and complains of an acute pain in the head, when the cough is most troublesome; is very apt to puke, sometimes with, and at other times without coughing; the urine is turbid, and the sediment intermixed with red; the breathing is quick and with difficulty, and a remarkable wheezing may be heard by the attendants whenever the patient coughs, shewing that the lungs are not sufficiently dilated. A pain of the whole breast accompanies this disease; but there are no signs of fever, especially in gross habits, which Sydenham imagined happens from the abundance of the phlegmatic matter, whereby the blood is so furcharged that it cannot rise to a perfect ebullition.

We are to observe, that in this disease bleeding is of no service, but on the contrary, for the most part, found to do harm; and the only chance that the sick person has for life is from repeated emetics and blisters. The most proper emetic will be either emetic tar-

tar or antimonial wine; and the patient ought not to drink much after it, so that the agitation from the puking may be the stronger: and the blisters are to be laid on the back, sides, and arms, which are also to be bathed, and the bowels kept open by clysters.

But it is very seldom that all this will answer; and we may foresee the death of the patient from the perpetual laborious wheezing, great anxiety, and intolerable oppression of the præcordia, together with a constant dosing, coldness of the extremities, and a livid colour in the face and hands.

People advanced in years, who are of a gross habit and flabby texture, may perhaps be prevented from falling into this disease by suffering issues to be made between the shoulders; as these will prevent the accumulation of lymph in the cellular part of the lungs, and possibly prolong life.

The sympathetic orthopnœa is also distinguishable into different varieties; the first we shall notice is the

Orthopnœa hysterica; which seizes persons of the hysteric temperament. The general signs of this temperament must serve to distinguish the disease. It is usually brought on by some violent fit of passion, or proceeds from flatus or other offensive matter pent up in the stomach and intestines.

Bathing the legs in warm water, applying blisters to them, and giving the foetid antispasmodics, such as a mixture of the tinctura fuliginis, and tinctura valerianæ volatilis, will generally be found to give relief; or, if these do not immediately procure ease, clysters of a decoction of carminative herbs and seeds, are to be injected, with asafoetida, and the proper quantity of extractum thebaicum, mithridate, or theriaca andromachi dissolved in them.

When this species of suffocation happens in women, it is supposed to proceed from some disorder respecting the uterus; and the
old

old writers entertained a notion, which is scarcely yet exploded among the vulgar, that the womb shifted its place, and rose up toward the thorax; for which reason, they directed foetids to be applied to the nostrils, in order to drive it back again.

They also made no scruple, in these cases, of directing means to be used, which now would be reckoned extremely odd; and would require no small stock of medical gravity and authority in the person who should propose them *.

The next variety is the *orthopnœa stomachica*. When a suffocation is known to be the consequence of a surfeit, or of something offensive loading the stomach, which may sometimes be collected from carefully weighing the circumstances of the case, an emetic of salt of vitriol is the proper remedy.

It is unnecessary to consider the *orthopnœa à vaporibus* as a disease. The fumes of inflammable and sulphureous bodies, of spirit of nitre, and of quick-lime, are chiefly those which appear to create distress by suffocation. Mephitic vapours act in another way, and in some inexplicable manner instantly destroy the healthy crasis of the animal fluids; for the bodies of people who perish from being exposed to mephitic vapours immediately swell, the blood bursts from the vessels, and in a short space of time shews strong marks of putrefaction.

The other varieties of orthopnœa, which might be noticed, are all, or mostly symptomatical, and depend on other diseases; consequently do not require a distinct consideration.

Asthma.

The *asthma* is a chronic disease, which may continue to give very great distress at intervals, for a considerable number of years. Sir

* Witness the following history, related by Duretus.

“ Ego nuper vocatus sum, media nocte, ad curationem mulieris, quæ ab hysterica suffocatione laborabat et conciderat quasi mortua: eam inveni frigidiorē marmore, pulsus erat parvus; maritus aderat, de uxoris salute valde sollicitus. Bene est dixi, jussi ut rem cum uxore sua haberet; rem habuit, indeque statim convaluit.”

See also Hollerius and Riverius.

John Floyer, when he wrote his treatise on this disease, had laboured under repeated paroxysms for thirty years.

The common distinction is into *humid* and *dry*; the former is accompanied with an expectoration of mucus or purulent matter, but the latter is not so attended.

Asthmatic people are seldom free from a cough, but especially such as are affected with the humid species; and these are more liable to an asthmatic fit from irregularities in the nonnaturals than those who are subject to the dry: for, while the expectoration continues free, the breathing is seldom much disturbed; but when the discharge from the lungs comes to suffer any interruption, which may happen from a variety of causes, then oppression and difficulty of breathing will infallibly ensue.

The patient has generally some warning of the approaching paroxysm, from the languor, loss of appetite, oppression, and swelling of the stomach from flatulence, which precede the fit; but it is usually the middle of the night, when the violent difficulty of breathing comes on.

The duration of the paroxysm is uncertain, as it will sometimes terminate in three or four hours, while at other times it shall continue for as many days; but while it subsists, the patient is in very great distress, not being able to lie in bed, nor scarcely to speak or expectorate, so great is the difficulty of breathing; and yet, notwithstanding all this apparent interruption to the free passage of the blood through the lungs, an inflammation here seldom or ever supervenes a fit of the asthma. As the paroxysm wears off, and the breathing becomes free, there is more or less of an expectoration of mucus; and the urine, from being pale and limpid, becomes high-coloured, and lets fall a copious sediment.

In order to obtain relief in the fit, we must bleed, unless extreme weakness or old age should forbid, and repeat it according to the degrees

degrees of strength and fulness: a purging clyster, with a solution of asafœtida, must be immediately injected; and if the violence of the symptoms does not speedily abate, it will be proper to blister the nape of the neck.

In the height of the paroxysm, an emetic might be followed by dangerous symptoms, as it would increase the accumulation of blood in the vessels of the head; but vomiting will often prevent a fit of the asthma, especially if the stomach should chance to be loaded with any sort of *faburra*. A very strong infusion of roasted coffee has been found to give ease in an asthmatic paroxysm.

In the intervals of the fits, persons subject to the asthma, especially of the humid species, should take emetics * from time to time, and should use the *lac ammoniaci*, with a due proportion of *oxymel scilliticum* and *vinum antimoniale*, with a view to promote expectoration; or the gum ammoniac, and others, of similar virtues, may be formed into pills, and combined with soap, as before mentioned for the *dyspnœa pituitosa*; and these pills may be washed down with a medicated wine, impregnated with squills, horse-raddish-root, and mustard-seed.

If this course should not prevent costiveness, it will be necessary, from time to time, to give a few grains of the *pil. rufi*, soap and aloes, or a mass of equal parts of rhubarb, scammony, and soap.

The dry asthma is sometimes relieved by courses of goat's whey, and such waters as abound in the native alkali. Issues are generally recommended in both species.

Changes of weather are usually felt very sensibly by asthmatic people, who in general cannot live with tolerable ease in the atmosphere of large cities; though we shall sometimes meet with patients who agree better with this air, which is so loaded with gross effluvia.

* An infusion of tobacco is an emetic which has been found very serviceable in some asthmatic cases.

of various kinds, than with the purest that can be found in country situations.

A light diet of meats that are easy of digestion, and not flatulent, is requisite for asthmatic people, and the exercise of riding is indispensibly necessary.

When the asthma is found to depend on some other disease, whether it be the gout or intermittent fever, or when it proceeds from the striking in of some cutaneous eruption, regard must always be had to the primary disease: thus, in the *asthma arthriticum*, sinapisms to the feet, or blistering, will be absolutely necessary, in order if possible to bring on a fit of the gout. And when the dregs of an ague give rise to an asthma, which is termed *Febricosum*, and invades at regular intervals, we must have recourse to the cortex.

The *asthma exanthematicum* will require blisters or issues, to give vent to the acrid matters which were expelled from the surface of the body, and courses of sulphureous waters, goat's whey, and sweetening diet drinks, or perhaps mercurial alteratives, in order to correct the sharpness of the juices.

CHAP. II.

Of the Hydrothorax, and Empyema.

DR. Lieutaud, who had much experience in opening morbid bodies, tells us, that a dropsy of the chest is a more frequent disease than is usually imagined; it being very difficult, for the most part, to know when there is water contained in the cavity of the thorax, and therefore the case passes for a common dyspnoea. But we may presume there is water here, when the breathing, which at best is difficult and frequent, becomes much more so when the patient lies along in a horizontal posture; so that at first going to bed he can scarcely rest, or if he does sleep, is not refreshed by it; and therefore

therefore is often obliged to sit up in bed, and to sleep in that posture, leaning forward; when joined to these, there is a sense of weight and pain at the pit of the stomach, sometimes shooting up to the shoulder of the part affected; and, when the hand and arm of that side puff up with an oedematous swelling, which also sometimes may be perceived on the side of the chest, we may conclude that there is water lodged in the cavity of the thorax.

But the most certain sign of all is, when we can actually hear the undulating noise of the water, upon striking the ribs. Sometimes the water is confined solely to the pericardium, which being preternaturally distended, oppresses the lungs, and will not allow them to dilate.

These cases are always attended with hectic heats and marasmus, and, toward the close, a colliquative diarrhoea generally hurries off the patient.

The hydrothorax is a very dangerous disease, and seldom admits of cure; for, if we cannot succeed in diverting the stagnant serum to the kidneys, and carry it off by urine, there is little room to hope for a recovery, since the stronger cathartics, which sometimes answer in other dropsies, are seldom of any service in this case, but contribute to the further wasting of the flesh. Diuretics therefore are what we are chiefly to depend on. Squills infused in wine, together with small doses of some antimonial preparation, will probably increase the discharge by urine.

Perpetual blisters on the legs will tend greatly to relieve the chest, and may serve, in some measure, to drain off the serum. But as the last resource, it is recommended by authors to puncture the thorax, the performing of which operation is particularly well described in Sharp and in Heister. The place for making the opening is between the sixth and seventh ribs, in the middle space between the spine and the

the sternum. If the dropsy happens to be merely local, and confined solely to the thorax, the operation may succeed, but this rarely happens to be the case.

The operation also will have a better chance for success, when the confined fluid is of the watery kind, than when it is purulent; for if the purulent matter should have come from an abscess that has burst, excepting this abscess should have pointed outwardly, and the lungs have grown to the pleura in that place, so as to let none of the matter slip in between them and this membrane, there is very little to be hoped from the operation.

It was formerly observed, that collections of purulent serum, which have come from the surfaces of inflamed membranes, where there is no ulceration, nor breach in the solids, are often found in the thorax after death; and we may infer that such a collection is actually there, if the signs, just now mentioned, as pointing out the hydrophora pectoris, be all present, and have come on after an inflammation of the internal parts of the thorax; that is to say, if there be an enlargement of the cavity, and an oedematous fulness of the skin and flesh of one side of the chest, with a perpetual dry cough, while the patient cannot breathe easy but when he sits up, and leans forward. These signs may serve to shew that there is an *empyema* or collection of purulent matter, that bold practitioners may possibly advise to be let out.

If the patient should submit to the operation, and survive it, he must be managed as was directed in the case of a pthisis, from an ulcer of the lungs.

GENERAL

GENERAL TABLE OF ASTHMATIC DISEASES.

GENERA.	SPECIES.	VARIETIES.
I. Dyspnœa.	1. Dyspnœa pituitosa.	
	2. ——— - à tuberculis.	
	3. ——— - calculosa.	
	4. ——— - physconialis.	
	5. ——— - scorbutica.	
II. Orthopnœa.	1. Orthopnœa idiopathica.	Catarrhus suffocativus. Peripneumonia notha.
	2. Orthopnœa sympathica.	Orthopnœa hysterica. ——— stomachica.
III. Asthma.	1. Asthma humidum.	
	2. ——— siccum.	
IV. Hydrothorax.		
V. Empyema.		

GENERAL TABLE OF ASTHMATIC DISEASES

VARIETIES SPECIES

I. Spasmodic	1. Spasmodic-purulent.
2. Spasmodic-typhoid.	3. Spasmodic-typhoid.
4. Spasmodic-typhoid.	5. Spasmodic-typhoid.
6. Spasmodic-typhoid.	7. Spasmodic-typhoid.
8. Spasmodic-typhoid.	9. Spasmodic-typhoid.
10. Spasmodic-typhoid.	11. Spasmodic-typhoid.
12. Spasmodic-typhoid.	13. Spasmodic-typhoid.
14. Spasmodic-typhoid.	15. Spasmodic-typhoid.
16. Spasmodic-typhoid.	17. Spasmodic-typhoid.
18. Spasmodic-typhoid.	19. Spasmodic-typhoid.
20. Spasmodic-typhoid.	21. Spasmodic-typhoid.
22. Spasmodic-typhoid.	23. Spasmodic-typhoid.
24. Spasmodic-typhoid.	25. Spasmodic-typhoid.
26. Spasmodic-typhoid.	27. Spasmodic-typhoid.
28. Spasmodic-typhoid.	29. Spasmodic-typhoid.
30. Spasmodic-typhoid.	31. Spasmodic-typhoid.
32. Spasmodic-typhoid.	33. Spasmodic-typhoid.
34. Spasmodic-typhoid.	35. Spasmodic-typhoid.
36. Spasmodic-typhoid.	37. Spasmodic-typhoid.
38. Spasmodic-typhoid.	39. Spasmodic-typhoid.
40. Spasmodic-typhoid.	41. Spasmodic-typhoid.
42. Spasmodic-typhoid.	43. Spasmodic-typhoid.
44. Spasmodic-typhoid.	45. Spasmodic-typhoid.
46. Spasmodic-typhoid.	47. Spasmodic-typhoid.
48. Spasmodic-typhoid.	49. Spasmodic-typhoid.
50. Spasmodic-typhoid.	51. Spasmodic-typhoid.
52. Spasmodic-typhoid.	53. Spasmodic-typhoid.
54. Spasmodic-typhoid.	55. Spasmodic-typhoid.
56. Spasmodic-typhoid.	57. Spasmodic-typhoid.
58. Spasmodic-typhoid.	59. Spasmodic-typhoid.
60. Spasmodic-typhoid.	61. Spasmodic-typhoid.
62. Spasmodic-typhoid.	63. Spasmodic-typhoid.
64. Spasmodic-typhoid.	65. Spasmodic-typhoid.

A
METHODICAL INTRODUCTION
TO THE
PRACTICE of PHYSIC.
BOOK VIII.
MENTAL DISEASES.

CHAP. I.

*Of the Mania, and Melancholia; Descriptions, and Methods of
Treatment.*

THOUGH we may consider the *mania* and *melancholia* as distinct genera, yet it is to be observed, that they are apt to slide into each other, and undergo various degrees of combination.

For the *melancholia* that is accompanied with sadness and fear, frequently changes to the *mania*, which is attended with audacious rage; and when the furious madness abates, the despondency and dejection of mind will often return heavier than before.

It is a very surprising circumstance, that mad people are not only less liable to be seized with infectious disorders than those who are in perfect health, but even when labouring under other diseases, if the patients chance to be seized with madness, they are sometimes freed from the former complaints. Dr. Mead relates two very remarkable instances; one of a young lady of twenty years of age, of a lively cheerful temper, but weakly constitution, who, from a bad habit of body, fell into a dropsy.

After trying various methods of cure to no purpose, when she was past all hopes of recovery, she was, on a sudden, seized with madness, from no cause that could be traced out, attended with great anxiety, and vain terrors of mind; for she imagined that she was to be apprehended, tried, and executed for high-treason. In the meantime, she gathered strength, and the swelling of her belly subsided visibly, so that in a short time she was judged by her physicians capable of bearing more powerful medicines suited to her two diseases. Accordingly, she was put into a course; first, of evacuants, and then of strengthening stomachics, which had so good an effect, that in some months she recovered perfect health of mind and body.

The other, but somewhat different from the foregoing, was also the case of a beautiful young lady, who, in the twenty-eighth year of her age, was seized with a violent cough and spitting of blood, for which she was bled plentifully in the arm every other day, for five or six times. This diminished the violence of the symptoms, but did not entirely remove them; and in two months a hectic fever came on, attended with heat, thirst, and night-sweats, together with great wasting of flesh, and frequent spitting of tough slime from the lungs and throat, interspersed here and there with small portions of yellow purulent matter. In a little time it was evident that she was running fast into a true pulmonary pthisis, and death seemed to be at the door; whereupon the patient became anxious for the salvation of her soul, and began to be overpowered by religious terrors. Night and day she thought herself surrounded by devils; sulphureous flames, and other horrid images of the everlasting tortures of the damned, were always present to her disordered imagination. But from this time the symptoms of the original disease began to abate; the febrile heat decreased; the spitting stopt; the sweats grew less; and her whole habit was so much changed for the better, that the bodily strength seemed to become more adequate to the performing the functions

functions of life, in proportion as the mind became less capable of governing the body.

The disease was now treated by evacuations proportioned to her strength, and other proper medicines, which seemingly had so good an effect, that there appeared some hopes of a perfect cure. But toward the end of the third month, the hectic fever returning, carried off the patient, after all these flattering expectations.

Another remarkable circumstance is, that immoderate joy, long continued, as effectually disorders the mind as anxiety and grief. For it was observable in the famous South-Sea year, when so many immense fortunes were suddenly gained, and as suddenly lost, that more people had their heads turned, from the prodigious flow of unexpected riches, than from the entire loss of their whole substance.

Mad people, especially of the melancholic kind, sometimes obstinately persevere in doing things which must excite great pain; whence it should seem as if their minds were troubled with some distracting notions, which make them patiently bear the present distress, lest more severe tortures should be inflicted; or possibly they may think that, by thus tormenting the body, they render themselves more acceptable to the divine Being, and expiate the heinous sins of which they may imagine themselves to have been guilty.

All the species and degrees of madness which are hereditary, or which grow up with people from their early youth, are totally out of the power of physic; and so, for the most part, are all maniacal cases of more than one year's standing, let them arise from what source soever. Very often, mere waste, or the dregs of some particular disease, such as an intermittent fever, the small-pox, or a nervous fever, shall give rise to different degrees of foolishness or madness. In these cases, the cure must not be attempted by evacuations, but, on the contrary, by nourishing diet, clear air, moderate exercise, and the use of wine: whereas, in almost all other mani-

acal cases which arise from different sources, and which come on in consequence of intemperate living, violent passions, or intense thinking, it is generally held, that evacuations of every kind are necessary, unless the constitution of the patient be such as absolutely forbid them.

Blood is most conveniently drawn either from the arm or jugulars; and if the weakness be such as forbids taking away much blood, we may apply cupping-glasses to the occiput.

Vomiting in weakly people must be excited by the vinum ipecacoanæ, but in the more robust, by emetic tartar, or antimonial wine: the most efficacious cathartics are the infusion or tincture of black hellebore, or infusion of senna quickened with tincture of jalap; but if there be suppression of the menses, or hæmorrhoidal discharge, then aloetic purges will be more proper.

But increasing the evacuation by urine is of the greatest moment, especially when any degree of fever is present; the cutaneous discharges are also to be promoted, for which purpose the hot bath is of the highest service in maniacal cases. Hoffman asserts, that he has seen numerous instances, both of inveterate melancholy and raging madness, happily cured by means of warm-bathing; bleeding and nitrore medicines having been premised. Camphor has also been highly commended; but if we may believe Dr. Locker, not very deservedly: this gentleman having found very good effects from a camphorated julep, wherein the solution was made in vinegar, took it for granted that all the success was owing to the camphor; therefore, in order to give it a fair trial, he selected seven patients, and gave it in large doses, of half a drachm twice a-day. This he continued for two months, and was surprised to find that only one of his patients received any benefit. He then returned the other six back to the camphorated julep, made with the vinegar, and in a few weeks four of them recovered the use of their reason. This inclined him
to

to think that the virtue depended solely on the vinegar, and, accordingly, he began to make the trial. He first gave common vinegar; but after a little while he fixed on distilled vinegar, and gave about an ounce and half of it every day; after having first prepared the patients by bleeding and purging, which he sometimes repeated as he saw occasion. He gives a list of eight patients who were cured by this method; some in six weeks, others in two months, and none of them took up more than three months in perfecting the cure. He does not indeed give the ages of the patients, nor mention the circumstances of the case, only says, they began the vinegar such a day, and were discharged cured on such another day; and, he adds, that they all continued well at the time of his writing.

Presently after they began the use of the vinegar, he relates, that their eyes lost that wild staring look, which is peculiar to people out of their reason, and presently after became quiet and calm. It acts chiefly by sweating; and he observed, that the more they sweated, the sooner they were cured; it was also observed to promote the menstrual discharge in such as had been obstructed, or had too little of this salutary evacuation. A remedy so simple and so safe, must be highly valuable, and deserves to be further tried.

No small share of the management of mad people consists in hindering them to hurt themselves, or do mischief to other persons. It has sometimes been usual to chain and to beat them, but this is both cruel and absurd; since the contrivance called the Strait Waistcoat, answers every purpose of restraining the patients, without hurting them.

These waistcoats are made of ticken, or some such strong stuff; are open at the back, and laced on like a pair of stays; the sleeves are made tight, and so long as to cover the ends of the fingers, and are there drawn close with a string, like a purse, by which contrivance the patient has no power of using his fingers; and, when he is laid on his back in bed, and the arms brought across the chest, and fastened in that position, by tying the sleeve-strings fast round the
waist,

waist, he has no power of his hands. A broad strap of girth-web is then carried across the breast, and fastened to the bedstead, by which means the patient is confined on his back; and if he should be so outrageous as to require further restraint, the legs are secured by ligatures to the foot of the bed.

It is of great use in practice to bear in mind, that all mad people are cowardly, and can be awed even by the menacing look of a very expressive countenance; and when those who have charge of them once impress them with the notion of fear, they easily submit to any thing that is required.

It is a more difficult matter to manage those whose madness is accompanied either with excessive joy, or with great dejection and despondency, than those who are agitated with rage; and all that can be done is, to endeavour to excite contrary ideas, by repressing the immoderate fits of laughter in the one kind, by chiding or threatening; and dispel the gloomy thoughts in the other, by introducing pleasing concerts of music, or any other species of entertainment, which the patients have been known to delight in, while they had the use of their reason.

Though blistering the head has generally been directed, Dr. Mead says, he has oftener found it to do harm than service; but he recommends a seton in the neck, and advises to keep the head always close shaved, and to wash it from time to time with warm vinegar. Opium is usually forbidden in maniacal cases, as supposing that it always increases the disturbance: but there are instances where large doses of this medicine have been found to prove a cure; and perhaps if it were tried oftener, we should find powerful effects from it: there certainly cannot much harm ensue from a few doses, which may be immediately disused, if they should be found to exasperate the disease.

The diet of maniacal patients ought to be perfectly light and thin; and after the disease appears to be subdued, chalybeate waters and the cold bath will be highly proper, to strengthen their whole frame, and secure them against a relapse.

A
METHODICAL INTRODUCTION
TO THE
PRACTICE of PHYSIC.

BOOK IX.

CACHEXIES, OR HUMORAL DISEASES.

CHAP. I.

Of Corpulency, considered as a Disease.

WE have only now to consider those genera of universal diseases that require immediate attention to the state of the gross fluids, which are liable to accumulate and stagnate in different parts of the body, or to be depraved by various species of acrimony that destroy their healthy crasis.

The first of these humoral diseases is *corpulency*, termed by the writers *Polysarcia*.

It was formerly mentioned, that in the natural and healthy state, the fat, or animal oil, is not allowed to diffuse itself throughout the cellular interstices at large, but is confined to the places where such an oily fluid is necessary, by a particular apparatus of distinct vesicles. But in many constitutions the oily part of the blood appears to exceed the requisite proportion, and easily separates from the other constituent parts, and then it is apt to accumulate in such quantities, that we may suppose it bursts those vesicles which were originally destined to hinder it from spreading too far.

The increase of the omentum particularly, and the accumulation of fat about the kidneys and mesentery, swell the abdomen, and obstruct the motions of the diaphragm; whence one reason of the difficulty of breathing which is peculiar to corpulent people; and the accumulation of fat about the basis of the heart and the large vessels connected therewith, incumber it so, that neither the systaltic nor subsultory motions can be performed with sufficient freedom, whence the weakness and slowness of the pulse; but when the whole habit is in a manner overwhelmed with an oily fluid, the enlargement of the cellular interstices will necessarily interrupt the general distribution and circulation throughout the nervous and vascular systems; hence want of strength, insensibility, somnolency, and death.

These cases are the more deplorable as there is scarce a possibility of cure; for the animal oil is of too gross a nature to be easily taken up by absorption; and we know, that when fluids are accumulated in the cellular system, there are no ways for them to be carried off, or to escape, but by the absorbents, which take their rise from the cellular interstices, taking them up, and afterwards discharging them through the pores of the skin.

Another misfortune is, that the disease steals on so imperceptibly, that it becomes inveterate by the time that people begin to think of pursuing the proper means of relief.

Soap has been proposed as a remedy to melt down and facilitate the absorption of the fat in corpulent people; and Dr. Fleming, some years ago, published a little treatise, wherein he recommends this medicine, and relates the case of a gentleman who is said to have received considerable benefit from it. But perhaps the soap lees would be more powerful, and might be more easily taken sheathed, as formerly directed, when recommended as a dissolvent of the stone.

Lieutaud

Lieutaud advises to take acetum scilliticum in small doses, with frequent purging, and brisk exercise. But it will seldom happen that the patients will be found sufficiently steady to persist in any of these courses, because it is the nature of the disease to render them irresolute and inattentive to their condition; therefore, the only good that can be done, must be in the way of prevention; and persons who are remarkably disposed to corpulency should take care, in time, to prevent it from becoming an absolute disease, by using a great deal of exercise, not indulging in sleep, and abridging their meals, especially that of supper. Salted meats are supposed to be less fattening than such as are fresh; and drinking freely of coffee is recommended to corpulent people.

C H A P. II.

Of the different Species of Dropsy, and Methods of Treatment.

ALL that part of the cellular system which is not occupied by oil, and all the larger cavities containing the different viscera, are constantly bedewed with a subtile lymph, which ouzes from innumerable pores in the coats of the arteries, but is absorbed as fast as it distils by the valvular lymphatics, and by them returned back into the general mass: Such is the natural and healthy state; but if at any time this lymph shall ouze into the cells or cavities, in greater quantities than the absorbents can readily take up, or if these vessels should be ruptured, or lose their power of absorption, then a dropsy will take place.

If it be in the cellular system that the lymph is suffered to accumulate, the whole body swells, and the disease is termed *Anasarca*. If it be in the head that the watery fluid is collected, the name of this species of dropsy is *Hydrocephalus*; if in the chest, *Hydrops Pectoris*, or *Hydrothorax*; and if in the abdomen, *Ascites*.

Formerly, the theory of dropfies was extremely confused and unsatisfactory; but now, since the true nature and use of the valvular lymphatics have been explained, (for which the medical world owes its first obligations to Dr. Hunter,) we may not only comprehend the immediate causes of the disease, but also see clearly whence we are to expect relief.

Every thing that can weaken the absorbent power of the lymphatics, or which occasions a preternatural secretion or ouzing of lymph, may be considered as a remote or possible cause of dropfy.

Profuse discharges of every kind weaken the power of the heart and arterial system, hence the blood is not sufficiently elaborated, nor its minute particles properly blended, so that the watery part is apt to secede, and ouze through the pores in the sides of the arteries into the cellular interstices, and different cavities; and here it will necessarily accumulate, if the absorbents do not carry it off with proportionable speed. But the same causes which weaken the heart will also weaken the absorbent vessels, and hence it is that a dropfy so commonly succeeds extraordinary losses of blood.

Intemperance of every kind is apt to lay the foundation of a dropfy; because such excesses destroy the appetite, and impair the digestive organs, whence want of nourishment, and consequently a weakness of the vessels, and a deficiency in the process of sanguification. A diet consisting of substances not capable of yielding much nourishment, and at the same time drinking immoderately, tend to produce dropfies on a double account; by not only weakening the power of the vessels, but also throwing into the blood a disproportionate quantity of watery fluid.

Let us now proceed to consider the different species of dropfy.

Anasarca.

The signs of an *anasarca* are so very obvious, that it is impossible to mistake the disease. The legs first begin to shew the stagnation of lymph, and the swelling in them is always most conspicuous toward evening. By degrees the swelling extends upwards, and occupies the trunk of the body, the arms, and the head; then the breathing becomes difficult, the appetite fails, the urine diminishes, the belly is bound up, and a perpetual thirst distresses the patient, who loses strength daily, and will soon inevitably sink under the weight of the disease, unless a spontaneous diarrhoea, or a profuse discharge of urine should supervene; for these are the only discharges we can hope for, as dropical people seldom or ever sweat.

The cure of an *anasarca* is to be attempted first by brisk purgatives, provided there has not been any profuse discharge, or previous illness, to exhaust the patient.

One of the best cathartics in these cases is the *radix jalapii*, administered in different forms*; or, in the more robust habits, a mixture of equal parts of gamboge and cream of tartar, from twelve to twenty grains.

On the intermediate days, it will be proper to give a spoonful of mustard-seed, and order it to be washed down with a decoction of the green tops of the common genista or broom; or the patient may drink twice or thrice in the day a glass or two of Rhenish wine in which some fixed alkaline salt has been dissolved, (half an ounce to a quart,) and every night take a quieting and diuretic draught of cinnamon water, acetum scilliticum, and the paregoric elixir.

* When the stomach will bear it, the jalap may be given in powder, rubbed up with an equal portion of nitre; but in delicate subjects, a palatable saline mixture, with the requisite quantity of *tinctura jalapii*, will answer best.

If, after three or four repetitions of the cathartic, the disease does not evidently appear to give way, we are not to persist in purging, lest the patient be thereby further weakened, but depend chiefly on diuretics; and if these do not appear to promise much success, have recourse to the sweating chair, which is particularly adapted to this species of dropsy, because a great part of the stagnant lymph may by this means be discharged through the pores of the skin.

Scarifying the legs is a usual practice in the anasarca; but the surgeon ought to be cautious in not making the scarifications either too deep or too long, and must take especial care, by spirituous fomentations and proper digestives, to prevent a gangrene. These drains are often found useful, and sometimes discharge a considerable quantity of water.

If we are so successful as to carry off the stagnant lymph by any of the methods above mentioned, it will then be proper to put the patient on a course of the cortex combined with chalybeates and aromatics, with a view to strengthen the solids; and enjoin the daily use of the flesh brush, with sufficient exercise.

The diet in dropfical cases of all kinds is generally directed to consist of plain meats, roasted rather than boiled; the patient should avoid crude, watery, and flatulent vegetables; and ought to drink Rhenish wine and Seltzer water, when it can be afforded; and when it cannot, common water with a small portion of geneva.

Hydrocephalus.

A dropsy of the head is a disease peculiar in a manner to infancy, and perhaps there is no instance of its having been cured. The writers, nevertheless, do not fail to recommend issues and setons to draw off the water; and purging at proper intervals, with rhubarb and calomel.

The *internal dropsy of the brain*, so well described by Dr. Whytt, we have ventured to term the *Hydrocephalic Fever*.

The *hydrops pectoris* has been already treated of, so that only the ascites now remains.

Ascites.

It sometimes happens, that, along with an anasarca, there shall be a collection of water in the cavity of the abdomen; and such cases are seldom or ever cured. Even the simple *ascites* is very difficult to remove, unless the disease be recent, and the abdominal viscera in a tolerably sound state; for when these are decayed or infarcted, there is very little room to hope for a favourable issue: And what adds to the difficulty in forming proper indications of cure, is the impossibility of knowing the true state of these viscera, or what may have been the original sources of the dropsy.

An *ascites* may be distinguished from a *physconia* by the fluctuation or undulatory motion of the fluid, when we strike the belly on one side, and lay the palm of the hand on the opposite; though in some cases this fluctuation is not very perceivable; owing either to the extreme visciduity of the contained fluid, or to its being contained in a number of cysts, or mixed with what are termed *Hydatids*.

These *hydatids* have been commonly believed to be the coats of ruptured lymphatic vessels; but there is no necessity for recurring to this opinion, as their formation seems easily accounted for, from the fortuitous concurrence and accretion of the grosser parts of the stagnant lymph, which run together in the same way, and make a similar appearance, that the gross parts of vinegar and other liquors do when they turn ropery, and the sediments form a number of transparent films. Hydatids which float loose among the water in
hydropic

hydropic subjects, are similar to these ropey films, and certainly were never organized; but as to the watery vesicles which are often observed to grow on the surface of the liver, they probably are varicose or over-distended lymphatics.

The *ascites* will be distinguished from a *tympany* by the weight of the swelling as well as by the fluctuation; but it will be no easy matter to tell when the water is in the cavity of the abdomen at large, or whether it be not inclosed between the laminæ of the peritonæum, or perhaps be lodged without-side the peritonæum, in a cavity formed by the tendinous expansion of the transverse muscles.

The common ascites, or that wherein the water fills the cavity of the abdomen, is preceded by a deficiency in the urinary discharge, and what is made, is foul, with a yellowish or lateritious sediment; the legs generally swell before there be any perceivable enlargement of the belly, and when this appears, the swelling of it is general. The face is often puffed up in a morning, and especially the eyelids, and frequently one of the hands will be found swelled. The patient now begins to grow thirsty, and breathes with difficulty when the head is laid down; the flesh wastes, the strength fails, and the pulse becomes weak and frequent. If blood be taken from one in these circumstances, the serum will be found in a much larger proportion than it ought to be.

When dropfical subjects are opened, the liver is the bowel which is most commonly found in a diseased state; next to that the spleen, pancreas, and mesenteric glands.

With respect to the cure of an ascites, we are in the first place to consider what evacuations the patient is able to bear. If there be great weakness, violent purging will be very prejudicial; and therefore, if we do not soon observe the swelling to abate, and the patient

patient begin to breathe with more freedom, we must desist from the use of cathartics, and endeavour to carry off the water by diuretics. But unfortunately these are so uncertain in their operations, that what will succeed to a miracle in one case, shall produce no sensible effect in another; and hence the necessity of varying the medicines, in hopes of meeting with some one that shall promote the wished-for discharge.

Among the safest and most powerful diuretics, we may enumerate the following: Squills infused in wine, with horse-raddish and mustard seed, and a little aromatic species to give some degree of grateful flavour; Rhenish wine, with salt of tartar; infusion of juniper berries, with sweet spirit of nitre; decoction of green broom tops, half a pint morning and evening, with a spoonful of whole mustard seed. This simple medicine, as Dr. Mead relates, proved a cure in an old dropical case, by not only keeping the belly open, but also carrying off five or six pints of urine every day. Different kinds of ardent spirits have at times proved powerful diuretics, and so have the common malt liquors, to persons not used to them; but the effects of all these are accidental. It is of some importance therefore, in dropical cases, to indulge the longings of the patients for particular kinds of drink, provided it shall be found upon trial, that the liquor so longed-for passes freely by urine; as there are instances of a cure being perfected by the use of some liquor which was perfectly new to the patient.

Such are the diuretics generally used by regular and cautious practitioners: But empirics, and those who are not so fearful, venture on cantharides; the root of colchicum autumnale infused in vinegar, and boiled up with honey into an oxymel; tincture of copper; or chrystals of silver: But none of these things ought to be directed in the ordinary course of practice, so as to trust the prescription to be made up by the common hands in apothecaries'

shops; for whenever such unusual remedies are given, they ought to be prepared and administered by the person who chuses to try them.

Narcotics, in cases where there is great pain, must be given occasionally; and these will sometimes prove diuretic, and thus answer two important purposes.

When neither cathartics nor diuretics are found to do service, there is another method of cure, which some patients have had resolution enough to put in practice; and that is, to abstain entirely from drinking: But such persons must assuage their thirst by moistening the mouth with a mixture of lemon juice and sweet oil, or by eating biscuit, now and then, which has been soaked in Rhenish wine. Holding a leaden bullet in the mouth invites a flow of saliva, and keeps off thirst, as is often experienced by people at sea when they happen to run short of water.

But when none of the methods which have been mentioned appear to lessen the quantity of water, we ought to try the effects of the paracentesis, or tapping.

Such readers as are not already acquainted with the method of performing this operation, which is neither complex, painful, nor dangerous, as it is now done, will find it described in Sharp and Heister, and in the first volume of the Edinburgh Medical Essays, wherein the late celebrated professor Monro gives the description of a broad belt which he contrived to keep up the pressure on the belly as the water runs off; for, without some such contrivance, or pressure by the hands of the assistants, the blood would rush in such abundance into the weakened vessels, that the heart would be in danger of not having a quantity sent to it, sufficient to stimulate the ventricles, whence a fatal syncope might ensue.

Since the paracentesis is so easy, and may be so safely done, it ought to be oftener performed than it is, and may be advised in all cases.

cases where the disease does not evidently and speedily give way, either to cathartics or diuretics. For, if the operation be deferred till the viscera are spoiled, by long soaking in water, it can hardly be expected that any permanent relief will be procured.

When the undulatory motion is very strong, we may expect to let off the water entirely by tapping; but when the fluctuation is not so perceivable, we may reasonably suspect that the fluid is of a viscid nature, or contained in cysts, or full of hydatids; or, which is still worse, that it is purulent or bloody. In all which cases, very little can be expected, either from the operation or from any other scheme of relief; for it is only in cases where the lymph happens to be tolerably pure, and can be drawn off entirely, that we have ground to hope for success.

There are several instances of persons who have been tapped a great number of times, and thereby have had their lives prolonged; of which the most remarkable is that of Lady Page, mentioned by Dr. Mead, who, "in seventy-seven months, was tapped seventy-six times, and had taken away two hundred and forty gallons of water, without ever repining at her case, or ever fearing the operation."

After the evacuation of the water, we are to put the patient on a course of strengtheners; such as the cortex, and filings of iron, with some of the warm aromatics, and a due proportion of rhubarb infused in wine. Enjoin brisk exercise and frictions on the belly, with such a course of diet as shall be light and nourishing.

There are now and then hydropic cases met with, wherein it appears that the power of the absorbent veins has all at once been so increased as to take up the stagnant water in the course of a few hours, which has afterwards flowed off in a profuse discharge of urine; but this matter is all accidental, and physic is not in possession of any remedies that we can assure ourselves will produce such powerful effects.

Sauvages has made a great many distinctions; not less than twenty-nine of the ascites; but he himself confesses that they are not of much practical use. We shall therefore not copy any of them, but refer the curious reader to the *Nosologia Methodica*, as also to Van Swieten's *Commentary*, Mead's *Monita*, and Monro's *Treatise on the Dropsy*.

CHAP. III.

Of the Jaundice; different Species, and Methods of Treatment.

THE *jaundice* is a disease which is often connected with the ascites, and plainly manifests itself by the yellow colour diffused over the skin, but more especially conspicuous in the whites of the eyes, and the nails; the urine is foul, with a yellowish sediment; the stools whitish or grey, and the belly bound. The patient is dull, oppressed, and has little or no appetite.

When the disease grows inveterate, a most troublesome itching is felt all over the skin; the colour of which becomes more dark, inclines to a green, and in some places appears blackish or livid: and now it gets the name of *Malasicterus*, or *Black Jaundice*; whereas, at first, the term is *Icterus*, or *Aurigo*, from the yellow colour; or *Morbus Regius*, because it is recommended to give the patients every kind of indulgence, in order to recreate and keep up their dejected spirits.

Every thing that can interrupt the flow of bile into the duodenum may produce a jaundice. Hence pressure on the *ductus communis* from tumours, whether they be seated in the liver, or in any of the adjoining viscera; spasmodic constriction of this canal; inflation of the duodenum, from wind pent up in the cavity of that intestine, so as to close the opening of the duct; and viscid or solid substances, choking up the same, are all of them to be held possible causes of the jaundice.

Hence

Hence we may easily understand, that in some cases the disease will come on by degrees, and remain incurable; while in others it shall make its appearance suddenly, and perhaps go off in a little time, without doing any sensible injury to the constitution.

It is to be observed, that a true jaundice, distinguished by the yellow colour, only happens in consequence of a resorption of the *cystic* bile, which is confirmed by the appearances in dissecting icteric subjects: for, when the excretion, or even secretion of the *hepatic* bile *solely*, is interrupted, the change of colour which this induces, is not absolutely yellow, as in the true jaundice; but of that kind which is usually termed Sallow, or pale, with a light tincture of yellow, or tendency to green.

The true jaundice seldom attacks people in the vigour of life, but oftener invades those who are advanced in years, and particularly such as have laboured under much affliction or grief, or who are of a fretful or passionate temper; but, above all, it attacks those who lead sedentary lives, who feed high, and indulge themselves too much in the pleasures of the table; where, by long-sitting, the abdominal viscera are compressed, and the circulation not sufficiently promoted through them by the action of the diaphragm, or the general motion of the body.

The patients first complain of a troublesome tightness about the præcordia, with a sensation like that of an oppressive weight; and for some hours after eating, they complain of a sharp heart-burning.

The next observable appearance is, a slight yellowness in the greater canthi of the eyes; the urine becomes somewhat higher coloured, and bilious excrements pass by stool: afterwards, a sudden and unaccountable anxiety arises, without any apparent cause, with an intolerable pain about the right orifice of the stomach, and sometimes throughout the whole lower belly.

This severe pain, which is usually considered as a fit of the colic, soon raises a degree of fever, with a violent vomiting; and when these symptoms have continued for some hours, they abate, generally with a looseness, and go off, leaving the whole body tinged with a yellow colour; in some, the face and breast only have been coloured at the first attack, but then the urine is of a very deep yellow.

After twenty-four hours, the patients generally find themselves free from pain, anxiety, or sickness, and being so easy, are apt to flatter themselves that they are soon to grow perfectly well; and so they will, if the cause which produced the stoppage be but of a transitory nature; such as a spasmodic stricture of the duodenum, and ductus communis, or an over-distension of the intestines by flatus. In these cases, the urine will become daily less coloured with bile, the yellowness will go off, and no appearances of the distemper be left.

But if stoney concretions be the cause, in a few weeks, or perhaps not for some months, the whole train of symptoms return again in the same order; and, after the patient has been thus repeatedly attacked, the jaundice at length becomes perpetual, worse at some times than at others, though not attended with such violent symptoms as at the first attack. The yellow colour is now very deep, and diffused all over the body; objects appear yellow to the eye, and even the saliva acquires a bitter taste; and, in process of time, when the crasis of the blood comes to be destroyed, it transudes from the vessels, gets into the cellular spaces, and gives a general livid cast; intolerable itching prevents sleep; the legs swell, and the abdomen at length filling with water, sinks the miserable patient under a dropy.

The cure of a jaundice is to be attempted in different ways, according to the nature of the obstacle that may have originally prevented the natural flow of bile into the duodenum; and hence the necessity
of

of distinguishing the different species of the disease; but the great difficulty is to determine these original sources of the distemper, and much will depend on the sagacity of the persons who undertake the management, to find out when only flatus or spasm are the causes; when tumours in the adjoining viscera compress, or when stoney concretions choke up the biliary canals.

The cases of the first species, or *icterus spasmodicus*, which is supposed to arise from mere spasm, independent of any settled stoppage or obstruction, may perhaps be distinguished by the temperament of the patient, being of that kind wherein there is an excess of sensibility, proneness to hysteric symptoms, or other spasmodic complaints, while there is no swelling, tension, or soreness in the hepatic region: the treatment during the painful period has been already laid down when we treated of the bilious colic; and as in these cases the jaundice usually wears off spontaneously, in the course of a few days or weeks, nothing particular is required: when the yellowness is more fixed, we shall then have recourse to some of the remedies hereafter mentioned.

The *icterus à pressura*, from an infarction or tumour of the liver, or some other of the adjoining viscera, will be known from its coming on gradually, and from the fulness, and, perhaps, hardness of the hypochondria; as also from the preceding state of the patient's health, which may give reasonable cause to suspect obstructions in the abdominal viscera.

The cure, if at all attainable, must be by a long course of such waters as are impregnated with the fossile alcali, together with the aperient gums and soap; occasionally purging either with aloes, rhubarb, salts, or oleum ricini, according as they may chance to suit the taste or circumstances of the patient.

In some cases, it will be proper to join the flores martiales, or some other chalybeate preparation, to the gums and soap; and in others,
where

where there is an inflammatory tendency, it will be necessary to bleed, and give sedative medicines, in order to allay any feverish symptoms.

The *icterus calculosus*, which is supposed to be the most frequent species of any, may be known by attending to the progress of the disease, as above described. While these stoney concretions remain in the gall-bladder, they never produce any appearance of jaundice; for it is not uncommon to find this receptacle full of these solid bodies, in subjects whose skin had not the least tinge of the yellow colour.

A perfect cure here is seldom obtained: if any thing can accomplish it, it must be a long continued use of such waters as abound in the native alcali, or have an abstergent saponaceous quality, like those of Bareges, with frequent exercise, especially riding and regular living. A course of goat's whey in the proper season may be found useful.

The diet, in all cases of jaundice, or bilious cacochymy, should consist of meats that are light, and easy of digestion, not crude or flatulent; the best drink for those whose circumstances can afford it, is Seltzer water mixed with hock, in cases where there is any tendency to feverishness or inflammation; or with Madeira, Lisbon, or Sherry, where the constitution is rather cold and phlegmatic.

The frequent returns of colic to which icteric subjects are liable, require that particular attention be given to prevent costiveness; by taking from time to time oleum ricini, soap and rhubarb, or soap and aloes, according to the difference of the patient's habit.

C H A P. IV.

Of the Emphysema, Tympany, Physconia, Atrophia, Osteosarcosis, and Sarcoctosis.

Emphysema.

WE have seen that the oily and the watery parts of the blood are both liable to secede from the other constituent parts; so is also the aerial, though these cases but seldom occur; for the original *emphysema* is a very rare disease. When the pleura is wounded by splinters of a fractured rib, or by any other means, so that air from the lungs insinuates itself into the cellular interstices, the whole body has been observed to swell to a monstrous size; as particularly in a case related by Dr. Hunter, in the second volume of the London Medical Observations; and in another, by Mr. Leake, in the third volume, to which we refer. These cases require that the skin should be punctured in various places to let out the confined air, in the mean while pursuing the proper means to keep off inflammation or fever, and facilitate the healing of the wound.

As to the primary *emphysema*, Dr. Huxham gives a case of one of considerable extent, wherein the patient recovered; but if the inflation becomes general, we may, for the most part, consider it as incurable; there being no remedy yet known to restore the blood to its healthy crasis, after it has once undergone such high degrees of corruption or depravation, as must necessarily take place before the extrication of the aerial principle.

Tympany.

A flatulent swelling of the abdomen will succeed the putrefaction of water or other fluids pent up in that cavity, or may ensue from the corruption or mortification of different viscera; but all such cases must be mortal, and the only species of *tympany* that can admit of

relief, must be that wherein the swelling arises from a general distension of the intestines by flatus. Histories of such cases are recorded in different books, particularly the Memoirs of the Royal Academy of Sciences at Paris, for the year 1713; the Philosophical Transactions, N^o 414; and first volume of Edinburgh Medical Essays, where there is an account of a tympany successfully treated by Monro. Moderate purging, with strengthening carminatives interposed; rubbing the belly, swathing it with a broad flannel-belt, and the exercise of riding, are the means to be used in these cases.

Physconia.

Those hard swellings of the abdomen, which are known in general by the appellation of *Physconia*, are most commonly met with in women, and usually proceed from an enlargement of the ovaria, or uterus. When such happen in men, the liver and spleen are the bowels most commonly affected, though sometimes the omentum is monstrously enlarged with a steatomatous swelling, or the mesenteric glands, in weakly children, and scrofulous subjects.

It must be impossible to determine these differences during the life of the patient; and as to the cure of such obstructions, we may despair of obtaining it, if the swelling does not soon give way to such courses as were proposed for that species of jaundice, which is occasioned by infarction of the different viscera.

Atrophia.

There is also but very little hope of curing the *atrophia*, or that wasting of flesh which is unaccompanied with a hectic fever, and which happens without our being able to assign any evident cause. This case is commonly called a Nervous Consumption. The first attempts must be to amend the state of the digestive organs, and improve the appetite by stomachic strengtheners, such as have been mentioned

mentioned on former occasions, and then try the effects of asses' milk, beef-tea, and other kinds of light nourishment. Worms, especially the *tenia*, may happen to be the cause of an atrophica; and for this reason, it will be proper to try the more powerful anthelmintics. Drinking malt liquor, especially the kind termed Porter, has been found very nourishing to such as have not before been accustomed to it.

Osteosarcosis, and Sarcostris.

A still less prospect is there of giving any relief in those deplorable, but happily uncommon, cases, where the bones either lose their solidity, or where the fleshy substance of the muscles degenerates into bone.

In Gooche's Cases and Practical Remarks in Surgery, there is a history of an *osteosarcosis* in a woman. On dissection, it was found that the bony substance had put on the appearance of hard liver, and whatever original laminae were left, were in the external part of the bone, which seemed to shew, that the disease must have begun in the marrow or interior part.

M. Morand has also published an account of the *osteosarcosis* likewise, in a female subject, who died at Paris in 1752. The disease came on gradually for two years, and was at first considered as a rheumatism; she had most excruciating pains, and contractions of the muscles, which distorted every limb, and reduced her to such a miserable figure, that he was obliged to add a print, in order to give an idea of the appearance which the body made at the time of her death. M. Morand imagined, that baths prepared with alum, sulphur, and vitriol, if timely applied, might prove useful in such a case, and retard the progress of the disease.

A third case, perfectly similar to the foregoing, was observed in 1759 at Waterford. A gentlewoman in her forty-seventh year began

to complain of pains, which were supposed to be rheumatic, and treated as such; they continued so severe for the first year as to confine her to her chamber, but in the beginning of the second, she totally lost the power of her limbs. From that time she lingered on for eight years, and during the two last of her life was observed to diminish gradually in stature, till she was reduced to less than a third of her original height, and in the mean while the bones lost their solidity. After death, there was not any medical person in the place who had more curiosity in examining the body, than by simply thrusting a knife into the arms, legs, and thighs, whereby the bystanders were satisfied that there was a complete dissolution of the bones in those parts: a little while before she died, the bone of the lower jaw became soft, but the skull lost nothing of its hardness, and preserved its natural texture to the last. During her whole illness, she still remained free from oppression or sickness, had an excellent appetite, and retained her senses to the last hour. Her urine was turbid, and deposited a whitish earthy sediment like chalk.

The *sarcostosis* has already been mentioned, under the name of *Catochus Scorbuticus*, in page 550.

CHAP. V.

Methods of treating the different Species of Mortification.

THE term *Sphacelus*, of which gangrene is an inferior degree, is applied to those mortifications wherein there is a discharge from the mortified part, accompanied with a puffy or œdematous swelling: while that of *necrosis* is appropriated to those cases where the mortified parts are dry, and have a withered appearance.

Every thing that has the power of destroying the texture of the living solids, or which can totally interrupt the circulation in any particular

particular set of vessels, may bring on a mortification. Thus the mere force of a violent inflammation driving the blood against the sides of the vessels already weakened, whether from internal acrimony or external injuries, will oftentimes rupture these vessels, and so produce a mortification; as was fully explained when we were on the subject of inflammations: and this we often see come to pass after severe bruises, and compound fractures, which injure and weaken a great number of vessels, so that their coats are not able to sustain the load of blood which is afterwards thrown into them by the force of the supervening inflammation.

Thus the soaking in water, in dropical habits, weakens the vessels so far, that when an inflammation is once brought on in consequence of scarifying or blistering, their coats are not able to resist the force of the fluids, but presently rupture and give way.

Thus also in constitutions where the fluids have acquired high degrees of sharpness, a mortification will readily happen, when the force of the blood happens to be directed against the vessels of any particular part; or, if a load of acrid humour should be thrown off critically from the mass of circulating fluids, and settle on any particular part of the body, that part will mortify.

The progressive motion of the blood may be interrupted by excessive cold, as often happens during severe frost; by ligature on a particular limb; by compression on a particular part; from lying too long in one posture: or a perfect stagnation may ensue from a total want of the nervous influence, as in a complete palsy.

These are the general sources of a sphacelus, or necrosis; which are easily distinguished by the cadaverous fætor, and total insensibility of the parts affected, and by the blackish colour, which is owing to the corrupted and stagnant blood, now extravasated, and diffused throughout the cellular interstices.

It

It is sufficiently evident, that the cure in these cases must consist in a separation of the mortified solids, and all our endeavours are to be directed to the forwarding this separation.

When the *vis vitæ* is strong, and the general mass of fluids tolerably sound, there is little to be done in the way of internal medicine. The mortified sloughs and teguments are to be cut through, and the scarifications dressed with warm balsams, and the parts wrapt up in flannels wrung out of a spirituous and antiseptic fomentation, all with a view to create an intenseness of motion in the vessels which are left entire; so that the force of the fluids in them may push off the mortified sloughs, as well as prevent further corruption and putrefaction of the extravasated juices. But when the *vis vitæ* is low, and the fluids sharp, then the cortex is the medicine on which we place our chief dependance, assisted with wine and other cordials; externals being managed as just now directed, so as to hasten a separation of the mortified parts.

Amputating in these cases will be altogether vain, until we find that the mortification has come to a stand, and the separation actually begun: therefore, in all cases where there appears to be a general indisposition of the fluids, and that the mortification cannot be considered as local, we should advise delaying the operation; and in the mean while try, by the cortex and other strengthening antiseptics, to hasten the separation.

A mortification from cold is not to be managed like that from any other cause; the only remedy is, to rub the parts affected with snow, and a little salt mixed; or, instead of that, to dip the parts in cold water, and rub them in it; and not to attempt applying any thing hot, or to bring the persons near a fire, till freedom of circulation shall be restored to the frost-bitten parts.

There are some very astonishing instances of mortifications coming on very suddenly, without being preceded by any fever, inflammation,

mation, or considerable pain. And there are histories of such cases in most of the general collections, particularly in the Memoirs of the Royal Academy of Sciences at Paris for 1710, and in the Philosophical Transactions for 1763, where we read of a whole family of poor people in Suffolk who were thus affected; some died, others lost their feet, and some their whole legs.

These spontaneous mortifications are of the dry species, and have been generally ascribed to the feeding on blighted or corrupted corn, or other rotten vegetables; though with regard to this poor family, it did not well appear what could have been the source; they had eaten of bad corn, it seems, but so had other people in the neighbourhood without being any way disordered. Undoubtedly, feeding on such corrupted substances must naturally tend to introduce a depravation of the fluids; and hence it is, that there are no constitutions so liable to suffer from mortifications, as those who are tainted with the scorbutic acrimony, and wherein the fluids have a tendency to putrefaction.

CHAP. VI.

Description of the Scurvy, and Methods of Treatment; with an historical Account of a new Method of curing the Scurvy at Sea.

THE term *Scurvy* is often indiscriminately applied, even by medical people, to almost all the different kinds of cutaneous foulness; and this vague way of speaking is owing to some writers of the last century, who comprehended such a variety of symptoms under this denomination, that there are few chronic diseases but may, according to this scheme, be called a Scurvy; but what we now mean to treat of is the *Putrid Scurvy*, so often fatal to seamen, and to people pent up in garrisons, without sufficient supplies of sound animal food and fresh vegetables; or which is sometimes known to be

be epidemical in particular seasons, or that is peculiar to certain countries and situations.

It is unnecessary to delay the reader with instances of the putrid scurvy raging on board ships, as it did with remarkable violence in those of Lord Anson's Squadron when he went into the South-Sea; or in garrisons, as it did at Quebec the first winter that the place was in possession of the English; or in cold and damp situations; since all these are sufficiently well known, and the rise of the disease is generally, and with justice, ascribed to the moisture of the atmosphere, while at the same time the people, exposed to this moisture, have little or no fresh vegetable food, wine, or other comfortable drink, and perhaps are not sufficiently clothed: but that the scurvy should become epidemical, and rage in a dry soil and pleasant situation, such as Hampshire, and seize people living in affluence, is not easy to account for; and obliges us to refer it to an acrimony of a specific nature, which we can no more describe, than we can the morbid matter that produces the small-pox, the gout, or any other disease.

Dr. Lind tells us, that, in the beginning and spring of the year 1760, an universal and real scurvy prevailed over Hampshire; its influence extended itself surprisingly to the ships at Spithead, and to such as were hovering on the coast. It attacked some hundreds of the French prisoners both in Winchester and Portchester castles. Nor were families, at their ease, in the country exempted from a slight attack; nay, some were afflicted with it in a high degree. At Hazlar Hospital, it seized men who were lately impressed, and who had never been at sea, equally with the old sailors who had made several voyages to the East and West Indies, and had never before been affected with it.

All this shews the scorbutic acrimony to be specific; for if it were of the general putrefactive nature, it would be as apt to produce a fever as

the scurvy, which we find it is not; but, on the contrary, the infection of a putrid fever is long resisted by a scorbutic habit.

It does not appear, however, that the scorbutic acrimony is infectious or contagious, so as to be transmitted from one person to another, like the small-pox, or lues venerea; but that it arises in the body spontaneously, in consequence of some unknown changes in the atmosphere, which become proportionally more capable of generating the scorbutic acrimony, as there is a deficiency of sound vegetable diet, fermented liquors, and clean or sufficient clothing.

When these circumstances combine with the morbid state of the atmosphere, the scorbutic acrimony will take place even in the soundest and strongest constitutions; but in such habits as have been weakened by a preceding distemper, or who are naturally relaxed, dull, and slothful, the disease will make its appearance, notwithstanding they enjoy the advantages of good diet and warm clothing, merely from changes in the atmosphere alone.

The first indication of the scorbutic acrimony is generally a change of colour in the face, from the natural and usual look, to a pale and bloated complexion, with a listlessness and aversion from every sort of exercise; the gums soon after become itchy, swell, and are apt to bleed on the slightest touch; the breath is then offensive, and the gums daily swelling more and more, turn livid, and at length become extremely fungous and putrid, which is one of the distinguishing signs of the disease.

The symptoms of the scurvy, like those of every other disease, are somewhat different in different people, according to the various circumstances of constitution; and they do not always proceed in the same regular course in every patient.

But what is very remarkable in this disease, notwithstanding the various and immense load of distress under which the patients labour,

there is no sickness at the stomach, the appetite keeps up, and the senses remain entire, almost to the very last; when lying at rest, they make no complaints, and feel little distress or pain; but the moment they attempt to rise, or stir themselves, then the breathing becomes difficult, with a kind of straitness or catching, with great oppression, and sometimes they have been known to fall into a fatal syncope. This catching of the breath upon motion, with the loss of strength, dejection of spirit, and rotten gums, are held as the essential or distinguishing symptoms of the disease.

The skin is generally dry, except in the very last stage, when the patients become exceedingly subject to faintings, and then it grows clammy and moist: in some it has an asnerine appearance, but much oftener it is smooth and shining; and when examined is found spread over with spots, not rising above the surface, of a reddish, bluish, livid, or purple colour, with a sort of yellow rim round them. At first these spots are for the most part small, but in time they increase to large blotches. The legs and thighs are the places where they are mostly seen, more rarely on the head and face. Many have a swelling of the legs, which is harder, and retains the impression of the finger longer, than the common dropical or truly oedematous swellings.

The slightest wounds and bruises in scorbutic people degenerate into foul and untoward ulcers. And the appearance of these ulcers is so singular and uniform, that they are easily distinguished from all others. Scorbutic ulcers afford no good digestion, but a thin and foetid ichor mixed with blood, which at length has the appearance of coagulated gore lying caked on the surface of the sore, and is with great difficulty wiped off or separated from the parts below. The flesh underneath these sloughs feels to the probe soft and spongy, and is very putrid. No detergents nor escharotics are here of any service; for though such sloughs be with great pains taken away, they

are found again at the next dressing, where the same sanguineous putrid appearance always presents itself. Their edges are generally of a livid colour, and puffed up with excrescences of proud flesh arising from below the skin. As the violence of the disease increases, the ulcers shoot out a soft bloody fungus, which often rises in a night's time to a monstrous size, and although destroyed by cauteries, actual or potential, or cut away with the knife, is found at next dressing as large as ever. It is a good while, however, before these ulcers, bad as they are, come to affect the bones with rottenness.

These appearances will always serve to assure us that an ulcer is scorbutic, and should put us on our guard with respect to the giving mercurials, which are the most pernicious things that can be administered in these cases.

Scorbutic people, as the disease advances, are seldom free from pains; though they have not the same seat in all, and often in the same person shift their place. Some complain of universal pain in all their bones, as they term it; most violent in the limbs, and especially on the joints, and legs when swelled; but the most frequent seat of their pain is in some part of the breast.

The state of the bowels is various: in some there is an obstinate costiveness; in others a tendency to a flux, with extremely foetid stools: the urine is also rank and foetid, generally high-coloured; and when it has stood for some hours, throws up an oily scum on the surface. The pulse is variable, but most commonly slower and more feeble than in the time of perfect health. A stiffness in the tendons, and weakness in the joints of the knees, appear early in the disease; but as it grows more inveterate, the patients generally lose the use of their limbs altogether; having a contraction of the flexor-tendons in the ham, with a swelling and pain in the joint of the knee. Some have their legs monstrously swelled, and covered over with livid spots or ecchymoses; others have hard tumors there; some, though without
4 K 2 swelling,

swelling, have the calves of the legs, and the flesh of the thighs quite indurated.

As people far gone in the scurvy are apt to faint, and even expire, on being moved and brought out into the fresh air, the utmost care and circumspection are requisite when it is necessary to stir or remove them.

Scorbutic people are at all times, but more especially as the disease advances, extremely subject to profuse bleedings from different parts of the body, as from the nose, gums, intestines, lungs, &c. and from their ulcers, which generally bleed plentifully, if their fungus be cut away. It is not easy to conceive a more dismal and diversified scene of misery than what is beheld in the third and last stage of this distemper; it being then that the anomalous and more extraordinary symptoms appear, such as the bursting out of old wounds, and the dissolution of old fractures that have been long united. However, notwithstanding all this, it is wonderful to see how soon these terrible symptoms shall give way to proper treatment; for if the texture of the whole system of solids be not quite destroyed, such is the power of the juices of fresh vegetables to restore soundness to the fluids in this disease, that a plentiful use of them scarcely ever fails to correct the scorbutic acrimony, if they can be had in any reasonable time. And it is almost no matter of what kind the juices are, provided they be fresh, and of such a nature as will allow them to be taken freely: the acid and the alcalescent, the mild and the acrid, the sweet and the bitter, all of them cure the scurvy; though their sensible qualities be so opposite, and their manner of affecting the body in other cases be so different.

All that we have to do therefore, is to fix on such fruits and other fresh vegetables as can be conveniently had and taken, and contrive to give them in those forms that will allow the patients to consume the greatest quantities.

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The first promising alteration from the course above mentioned, is usually a gentle diarrhoea; and if, in a few days, the skin becomes soft and moist, it is an infallible sign of recovery; especially if the patients gain strength, and can bear being stirred or carried into the open air without fainting.

But if the belly should not be loosened by the use of the fresh vegetables, nor the skin become soft and moist, then they must be assisted by stewed prunes, or a decoction of tamarinds with cream of tartar, in order to abate the costiveness; and by drinking a light decoction of the woods, and warm bathing, in order to relax the pores of the skin; for nothing contributes more to the recovery of scorbutic patients than sweating.

With regard to particular symptoms, antiseptic mouth waters of decoction of bark and tincture of roses, with a solution of myrrh, must be used occasionally, in order to cleanse the mouth, and brace up the relaxed and spongy gums. Swelled and indurated limbs, and stiffened joints, must be bathed with warm vinegar, and relaxed by the steam of warm water, repeatedly conveyed to them, and confined to the parts by means of close blankets: ulcers on the legs must never be treated with oily or greasy applications, nor sharp escharotics, but we ought rather to apply lint or soft rags, dipt in a strong decoction of Peruvian bark.

This disease at no time bears or requires large evacuations, either by bleeding or purging; and, as hath been already mentioned, the belly must be kept open by the fresh vegetables, or by the mildest laxatives. But we are always to be careful that scorbutic persons, after a long abstinence from greens and fruits, be not permitted to eat voraciously at the first, but they are rather to be treated like people who have been almost starved, and be suffered to take but a little at first, and then increase the quantity of vegetables by degrees, otherwise they might chance to fall into a fatal dysentery.

All this, however, that has been laid down as the method of treatment, supposes the patients to be in a situation where they can be plentifully furnished with fresh vegetables; but, unhappily, these often cannot be procured at sea or in garrisons; and therefore, in order to supply this deficiency, and that a remedy for the scurvy might never be wanting, the author, in the year 1762, first conceived the notion, that *infusion of malt*, commonly termed *Wort*, might be substituted for the fresh vegetable juices.

In the Appendix, the reader will find a short account of the difficulties which occurred before the wort could have a fair trial; as also of its success, and the methods of administration.

C H A P. VII.

Description of the Scrofula, and Methods of Treatment.

THE *scrofula* being one of those diseases whose name is apt to give offence, it often passes under the denomination of Scurvy; not that there is the least affinity between the two diseases.

The scrofula is mostly hereditary, but it is also capable of being communicated by a nurse.

It is generally before puberty that the scrofulous acrimony becomes manifest; for, after that period, the constitution, for the most part, acquires sufficient firmness to prevent this species of morbid matter from producing actual disease.

Writers are not thoroughly agreed whether this disease can be transmitted in the way of contagion: some authors hold that it may; but if it be contagious, it is not equally so with the itch or lues venerea: however, as it is always best to err on the safe side, it is most advisable to order scrofulous patients to lie alone.

The scrofulous humour principally settles either in the glandular parts, or the bones, and the disease first appears in little kernels, or lumpy

lumpy indolent swellings down the sides of the neck, or in the armpits, and about the breasts; or in swellings of the joints, either of the fingers, wrist, knee, elbow, or ankle.

A strain of any of these joints will often give occasion for the scrofulous humour to shew itself. But where no such external injury has preceded, the swelling comes on gradually, and without any pain or discolouring.

In process of time, as the humour acquires sharpness sufficient to irritate and corrode the living solids, the parts affected grow hot, red and painful, and end in a suppuration. The matter of the abscess is thin, and mixed with a whitish curdly substance; and this curdly matter, which is discharged after the opening of scrofulous swellings, together with the hard lumpy feel which they have before suppuration, are the circumstances that particularly distinguish them from other species of tumour.

A thickness of the upper lip may be held as peculiar to scrofulous habits; and where we meet with this appearance, even though there should be no other, it gives sufficient room to suspect a scrofulous acrimony; for very often this humour does not shew itself in the exterior habit, but settles internally: the mesenteric glands in these cases are generally found stuffed up and swelled, with a cheesy, purulent, or earthy matter; whence wasting, hectic fever, and death; and very often the same kinds of matter settle on the lymphatic glands in the lungs, and produce cough, with the other symptoms of dyspnoea or pthisis, already described.

As the scrofulous acrimony is of such a nature, that it can lurk long in the body without shewing itself, it necessarily must be very difficult to conquer, because of the firm hold that it gets of the constitution, before people are aware of its existence.

There are, however, three things that have been found to produce happy effects in subduing this acrimony, and these are, the sea-water, the

the cortex, and the cicuta. But the variety of circumstances will render it necessary to make a choice between these different remedies.

In general it may be laid down, that the use of sea-water (that is, drinking and bathing, according to Dr. Ruffel's scheme *) will answer best before there are any suppuration or symptoms of tabes; the cortex, when there are running sores, and a degree of hectic fever; and the cicuta, in old inveterate cases, approaching to the scirrhus or cancerous state.

The sea-water should only be taken in such quantity as shall be sufficient to keep the belly gently open, and when it creates a distressing degree of thirst, it may be mixed with common fresh water.

The lime-water tincture is the most efficacious way of administering the cortex in scrofulous cases; and either the extract or the fresh juice of the cicuta may be given.

The cicuta is found not only to promote the suppuration of scrofulous tumours, but also meliorates the discharge from the ulcers; mercury likewise promotes the suppuration of these tumours, but this is a way of termination that is far from being desirable, as the ulcers which succeed are generally very slow in healing up; therefore a resolution is what we are always to wish for: but when scrofulous swellings do suppurate, they ought never to be opened until all the lumpy hardness shall be melted down; and it is worthy of observation, that these are a kind of abscesses which often do better when left to break of themselves, than when they are opened by Art: and the sinuses that form afterwards, are seldom cured by dilating; for, until the acrimony shall either be subdued, or the constitution acquire sufficient firmness, these sores never heal up, and therefore it is needless, as well as cruel, to torment the patients with frequent incisions.

Rubbing scrofulous swellings with the alga marina, or common sea-wrack, and applying the same by way of cataplasm, is sometimes

* Laid down in his Treatise on the Use of Sea-Water.

found useful in softening and dispersing them; a mixture of fresh gall with soap liniment, is also a powerful resolvent.

The sulphureous waters are esteemed particularly salutary in scrofulous cases of long standing; but in general it requires the perseverance of some years to accomplish a perfect cure; and frequently it is found, that nothing will eradicate the disease, but the removal of the patient into a warm climate.

C H A P. VIII.

Of the Cancer.

WE may sometimes trace the *cancer* from a *scrofula*; the persons afflicted with that disease in advanced life being frequently such as have shewn signs of this in their youth: hence there is reason to consider the acrimony which gives rise to the cancer, as having some affinity with that which produces the Evil.

The cancer, like the scrofula, attacks chiefly the glandular parts and the bones; the lips, nose, breasts, and axillary glands, are the most frequent seats of the disease; but sometimes it settles on the uterus, the penis, or lower part of the intestinum rectum.

Cancerous swellings are lumpy, like the scrofulous; but exceed these, as well as every other species of tumour, in hardness: before they become painful, they are termed *Scirrhi*; and in this state the skin is seldom discoloured, but after the pain begins, it turns dusky or livid, and the subcutaneous veins of the part affected put on a varicose appearance.

A cancer may remain in the indolent state, and without ulceration, for years; during which, it is called an *Occult Cancer*; but when the humour acquires such sharpness as to corrode the teguments, it gets the name of an *Open Cancer*. The ichor which is dis-

charged, is generally so caustic, that it quickly erodes the adjacent parts, whether they be hard or soft, and thus constitutes a most frightful species of ulcer, that no application yet found out is capable of healing; neither has there been any alterative as yet discovered capable of correcting or subduing the cancerous acrimony; so that the only remedy is extirpation, either by the knife or caustic, when the part which is the seat of the disease happens to be such, that it can be completely removed without material injury to the rest of the body.

The choice of these two methods of extirpation must be directed by the particular circumstances of the case; but when a caustic is judged preferable to the knife, the difficulty is to find one that will not spread, laterally, further than is intended, which the lapis infernalis and lunar caustic constantly do, in spite of every contrivance to prevent them.

The composition which is kept a secret in Ireland by a family of the name of Plunket, and in England by some persons to whom they have sold it, is believed to consist of the things which are mentioned in the note *. It is a very powerful escharotic, and occasions most acute pain; but its excellence is, that it does not extend its operation laterally.

Every body knows how much the cicuta has been cried up in Germany, and how little it has succeeded in France and in England: in Ireland there have been a few cases where it really has done service, and it ought not to be altogether thrown aside. The fresh juice has been found more efficacious than the extract; the patients begin

* Take of the leaves and stalks of the ranunculus flammeus two pugils; of those of cotula foetida one pugil; white arsenic, two drachms; flowers of sulphur, one drachm. Mix the whole, and rub them into a powder. This powder, made into a paste with the white of an egg, is applied to the cancerous part which it is intended to corrode; and being covered with a piece of thin bladder, smeared also with the white of an egg, is suffered to lie on from twenty-four to forty-eight hours; afterwards the eschar is to be treated with softening digestives, as in ordinary cases.

with

with four or five drops, and increase it gradually. The application of this herb externally, has been long directed in cancerous cases; and is generally of some service, both in rendering the ulcers less foul and corrosive, and in softening down the hardneſſes.

Persons labouring under a cancer should live on the lighter and milder kinds of food, avoid every thing salt or heating, and should purge gently from time to time with the neutral salts, or the natural purging waters.

C H A P. IX.

Description of the Lues Venerea; and Methods of Treatment.

ASTRUC, who writes the elaborate and complete history of the *lues venerea*, is fully convinced that it is a new disease, which never appeared in Europe till some time between the years 1494 and 1496, having been imported from the New World by the companions of the famous Christopher Columbus: hence it appears, that the morbid matter which produces the *lues venerea*, like that which gives rise to the small-pox, is of a specific nature, and was originally peculiar to one quarter of the globe, from whence it has now spread to all the other three.

But the venereal acrimony cannot, like the infectious miasmata, which produce several species of fever, be carried in the air, and waſted from place to place; for, unless it be transmitted from parents, (which too often happens) there is no other way of contracting the disease, but by actually touching some person who is affected.

Thus, when a nurse happens to labour under the disease, the infant that she suckles will imbibe the infection; as, on the other hand, when the child is infected, the nurse is liable to receive it: and there have been instances wherein lying-in women have been

infected, by having the misfortune to employ a person to draw their breasts, who happened to have venereal ulcers in the mouth.

It may also be contracted from lascivious kissing, when the mouth or lips of the diseased party chance to be ulcerated. It may be caught by handling venereal sores, if the cuticle happens at the time to be abraded any where about the hand or fingers, so that the virus can find an entrance through this undefended part of the skin; but by far the most common way of contracting this disease is by coition, the genital parts being of all others the most liable to admit the virulent particles, as being of a spongy nature, and covered with an exceedingly delicate cuticle, which is always kept tender from the continual moisture peculiar to these parts of the body. When the disorder is communicated by contact, the places where the acrimony first made its entrance are generally those where it first makes its appearance; and as coition is the most common way of contracting it, so the first symptoms ofteneft appear on, or somewhere near the pudenda.

We shall defer the consideration of these local venereal complaints, till we come to shew the methods of treating the diseases of the second class; and, at present, only describe the symptoms, and point out the most successful ways of management, when the virus is supposed to have tainted the habit in general.

The patient's own account will, for the most part, help us to distinguish the disease; but there are sometimes cases wherein we cannot avail ourselves of this information, and where, instead of confessing, the parties shall conceal all the circumstances; while again, on the other hand, we shall now and then meet with people who persuade themselves that symptoms are venereal which in reality are owing to some other cause; and therefore it is of the utmost importance to inform ourselves thoroughly of the nature of those symptoms
and

and appearances which may be considered as pathognomonic signs of the lues venerea.

In the first place, when we find that the local symptoms, such as chancres, buboes, phymosis, and the like, do not give way to the usual methods; or when these complaints, after having been cured, break out again without a fresh contagion, we may justly suspect that the virus has got hold of the general mass of lymph; but if, at the same time, we find ulcers breaking out in the throat, or dry scabby eruptions on the skin, or hard callous tubercles or pustules covered with a yellow scab, and appearing chiefly among the hairy parts, we may be assured that the case is now become that of a confirmed lues.

But as these eruptions and ulcerations of the throat sometimes come unattended with any of the symptoms peculiar to the genitals, it will be necessary to lay down the distinguishing marks that shew them to be truly venereal, and different from such as are the produce of a scorbutic or leprous acrimony.

When eruptions of the furfuraceous and superficial kind are venereal, they are not attended with itching; and the scale being picked off, the skin appears of a reddish brown, or rather copper-colour underneath; whereas leprous eruptions are itchy, throw off a greater quantity of scales, and rise in larger blotches, especially about the joints of the knees and elbows. Venereal tubercles or pustules, are easily distinguished from carbuncles of the face, by not occupying the cheeks or the nose, nor as having a purulent apex, but are covered at top, either with a dry branny scurf, like the superficial eruptions just now mentioned, or else with a hard dry scab, of a tawney yellow hue; they particularly break out among the hair, or near to it, on the forehead, or on the temples.

Venereal ulcers affecting the mouth are distinguishable from those which are scorbutic, in the following manner: 1. Venereal ulcers
first

first affect the tonsils, fauces and uvula; then the gums, but these very rarely: on the contrary, scorbutic ulcers affect the gums first of all; then the fauces, tonsils, and uvula. 2. Venereal ulcers frequently spread to the nose, scorbutic ones never. 3. Venereal ulcers are callous in the edges; scorbutic ones are not so. 4. Venereal ulcers are circumscribed, and, for the most part, are circular, at least they are confined to certain places; scorbutic ones again are of a more irregular form, spread wider, and frequently affect the whole mouth. 5. Venereal ulcers are, for the most part, hollow, and generally covered at bottom with a white or yellowish slough; but scorbutic ones are more apt to grow up into loose fungi. 6. Venereal ulcers are red in their circumference, but scorbutic ones are always livid. 7. Venereal ulcers frequently rot the subjacent bones, the scorbutic ones seldom or ever. 8. And lastly, Venereal ulcers are most commonly combined with other symptoms which are known to be venereal; scorbutic ones with the *distinguishing signs* of the scurvy, such as the strait breathing, listlessness, swelling of the legs, rotten gums, &c.

Another sure sign of the confirmed lues, are those deep-seated nocturnal pains, particularly of the shins, arms, and head. As for those superficial wandering pains that fly from place to place, and which affect the membranes of the muscles and the ligaments of the joints, they have, for the most part, so near a resemblance to the gout and rheumatism, that they are not to be considered as venereal, except they be accompanied with other evident signs; but with regard to the pains which are deeply seated, and always fixed to the same place, and which affect the middle and more solid part of the ulna, tibia, and bones of the cranium, and which rage chiefly, and with great violence, in the fore-part of the night, so that the patient can get no rest till morning approaches, these may be held as sure signs that the venereal acrimony has spread itself throughout the whole habit, whether they be accompanied with other symptoms

of

of the lues or not. Gummata in the fleshy parts, nodes in the periosteum, ganglia upon the tendons, tophi upon the ligaments, exostoses upon the bones, and fici at the verge of the anus, are all of them signs of the confirmed lues: these are hard indolent swellings, but as they sometimes arise independent of any venereal acrimony, and perhaps may depend on a scrofulous taint, unless they be accompanied, or have been preceded by some of the more certain and evident symptoms of the lues, we are to be cautious about pronouncing them venereal. When these swellings are not owing to the venereal acrimony, they very seldom are painful, or tend to inflame and suppurate; whereas those that are venereal usually do, and if they lie upon a bone generally bring on a caries.

These carious ulcers are most commonly met with upon the ulna, tibia, and bones of the cranium; and when accompanied with nocturnal pains, we never can hesitate about declaring their genuine nature. Frequent abortions, or the exclusion of scabby, ulcerated, half-rotten and dead foetuses, happening without any manifest cause to disturb the foetus before its time, or to destroy it in the womb, may be reckoned as a sure sign that at least one of the parents is infected.

These then are the principal and most evident signs of the confirmed lues. There are others which are more equivocal, and which, unless we can fairly trace them back to some that are more certain, cannot be held as signs of the venereal disease; such are, 1. Obstinate inflammations of the eyes, frequently returning with great heat, itching, and ulceration of the eye-lids. 2. Singing and hissing noise in the ears, with ulcers or caries in the bones of the meatus auditorius. 3. Obstinate headaches. 4. Obstinate cutaneous eruptions, of the itchy or leprous appearance, not yielding to the milder methods of treatment. 5. Swellings of the bones; and, 6. Wandering and obstinate pains. None of these symptoms however can be known to
be

be venereal, except they happen to coincide with some or other of the more certain signs.

Upon the whole, we are always to distinguish and consider the several symptoms singly, and then compare them with each other, so that a clear judgment may be formed upon the general review.

Being thoroughly convinced that the case is venereal, we are to consider, first of all, whether it be of a longer or a shorter date; for the more recent it is, it will, *cæteris paribus*, be less difficult to remove. But there are other circumstances which will assist us in forming a prognostic as to the event. As,

1. The age of the patient. This disorder is more dangerous to infants and old people than to such as are in the flower and vigour of life, in whom a great share of the virus may be expelled by exercise, or in some degree be subdued by the strength of the constitution.

2. The sex of the patient. Though women are for the most part weaker than men, and therefore seem less able to resist the force of the venereal poison, when it has once gained admittance, yet experience shews, that it is easier borne by women than by men, which seems owing to the menstrual and other uterine discharges, by which perhaps a good share of the acrimony may be carried off immediately from the parts where it first was applied; for it is observable, that whenever these discharges are obstructed, or cease by the ordinary course of Nature, all the symptoms of this disease grow worse.

3. The habit of body. Persons who have acrid juices will be liable to suffer more from the venereal poison than such as have their blood in a milder state; hence when people of a scorbutic or scrofulous habit contract venereal disorders, the symptoms are always remarkably violent, and difficult to cure. And for the same reasons, the confirmed lues is much more to be dreaded in a person already inclined to an asthma, a pthisis, a dropsy, the gout, or any other chronic

chronic disease, than in one of a sound and healthy constitution. For, as the original disease is increased by the accession of the venereal poison, so the lues is aggravated by being joined to an old disorder. The more symptoms arise, and the more they affect the bones, so much the more difficult the cure; but if the acrimony should seize any of the nobler internal parts, such as the brain, the lungs, or the liver, then the disease becomes incurable, and the patient will either sink under a tabes, or go off suddenly in an apoplectic fit.

It is sufficiently well known, that mercury is the chief, and indeed the only thing on which we can depend for a cure, whether it be introduced through the pores of the skin in the form of ointments, plasters, washes, or fumigations, or whether it be given by the mouth, disguised in a hundred different shapes of pills, troches, powders, or solutions.

Formerly it was held as a rule, that a salivation ought to be raised, and a great discharge excited, but this is now found to be unnecessary; for, as mercury acts by some specific power in subduing and correcting the venereal virus, all that is required, is to throw in a sufficient quantity of the medicine for this purpose; and if it can be diverted from the salivary glands, so much the better, since the inconveniences attending a spitting are such as we should always wish to avoid.

Mercury, when combined with any saline substance, has its activity prodigiously increased; hence the great variety of chemical preparations, which have been contrived to unite it with different acids.

Corrosive sublimate is one of the most active of all the mercurial preparations, insomuch as to become a poison even in very small doses. It therefore never can be given in substance, but must be dissolved, in order to render it capable of a more minute division. We may see, by looking into Wiseman, that this is an old medicine, though seldom given by regular practitioners. How it came to be introduced into so remote a part of the world as Siberia, is not easily

found out; but Dr. Clerc, author of the *Histoire Naturelle de l'Homme Malade*, assures us, that the sublimate solution has been in use there, time out of mind.

It appears to have been totally forgotten in other places, until of late years, when the Baron Van Swieten brought it into vogue; so that now, if we credit Dr. Locker, they use no other mercurial preparation at Vienna. The number of patients cured by this remedy alone in the hospital of St. Mark, which is under the care of this gentleman, from 1754 to 1761 inclusive, being 4880.

This method has been introduced both in Britain and Ireland, though by no means to the exclusion of others; and it has appeared, that the solution does not turn out so infallible a remedy either in these kingdoms or in France, as they say it has done in Germany. The French rather look on it with abhorrence, and talk of its being a certain poison; and a late writer of that nation, supposed to be Dr. Petit, in a small book, intitled, *A Parallel of the different Methods of treating the Venereal Disease*, insists, That there is neither certainty nor safety in any other method than that by the small and repeated frictions.

The way to prepare the solution is, to dissolve as much sublimate in any kind of ardent spirit (at Vienna they use only corn-brandy) as will give half a grain to an ounce of solution. The dose to a grown person is, one spoonful mixed with a pint of any light ptisan, or barley-water, and this to be taken morning and evening: the patients should keep mostly in a warm chamber, and lie in bed to sweat after taking the medicine; their diet should be light, and they ought to drink plentifully throughout the day, of whey, ptisan, or barley-water. If the solution does not keep the belly open, a mild purge must be given from time to time; for Locker observes, that those whom it purges two or three times a-day, get well sooner than those whom it does not purge; he also says, that it very seldom
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affects the mouth, but that it promotes the urinary and cutaneous discharges. This course is not only to be continued till all the symptoms disappear, but for some weeks longer. The shortest time that Locker used to let the patients out was six weeks; and it will be proper to put them on a decoction of the woods for some time, after they leave off the solution.

But mercury may be united with a still larger proportion of marine acid, than it is in the preparation of corrosive sublimate; as in the following manner: an ounce of pure distilled water will dissolve thirty grains of corrosive sublimate, and no more; but if some crude sal ammoniac be added to this solution, it will then dissolve a small portion of that salt, and afterwards will take up some grains more of corrosive sublimate, and thus produce the strongest possible solution of that preparation.

One drop of this loaded salino-mercurial solution is found to be a dose sufficiently strong, and when mixed with a pint of decoction of the sudorific woods, generally raises a plentiful sweat, and proves a powerful corrector of the venereal virus.

But as this medicine requires so much nicety in the administration, it cannot be recommended to ordinary practitioners, who had better content themselves with the common solution of sublimate, or make trial of the new method which was first recommended by Dr. Plenck, and since improved by Dr. Saunders; namely, that of uniting mercury with mucilage of gum arabic, which is said to render its exhibition perfectly mild and safe. (For particulars, we refer to Dr. Saunders' treatise.)

But if neither this method, nor the solution be judged expedient, and it is determined to have recourse to the mercurial frictions, the patient must be prepared, by going into the warm bath some days successively; having been previously bled, if of a plethoric habit, and taking a dose or two of some proper cathartic.

The patient being fitted with the necessary apparatus of flannels, is then to enter on the course.

If the person be of a robust habit, and in the prime of life, we may begin with two drachms of the unguentum cæruleum fortius, (Ph. Lond.) which is to be rubbed in about the ankles, by an assistant whose hands are covered with bladders; then having intermitted a day, we may expend two drachms more of the ointment, and rest for two days; after which, if no soreness of the mouth comes on, use only one drachm, and at every subsequent friction ascend till the ointment shall reach the trunk of the body, after which the frictions are to be begun at the wrists, and from thence gradually extended to the shoulders. In order to prevent the mercury from laying too much hold on the mouth, it must be diverted to the skin, by keeping the patient in a constant perspiration from the warmth of the room, and by drinking plentifully of barley-water, whey, or ptisan; but if, nevertheless, the mercury should tend to raise a spitting, then, from time to time, we are either to give some gentle cathartic, or order the patient into a vapour bath; and thus we are to go on, rubbing in a drachm of the ointment every second, third, or fourth night, according as it may be found to operate; in the intermediate times, either purging or bathing, unless we should chuse to let the salivation come on, which, however, it is much better to avoid, as we shall thus be able to throw in a larger quantity of mercury.

It is impossible to ascertain the quantity of mercury that is necessary to be rubbed in, as this will vary according to circumstances; but we are always to continue the frictions at least for a fortnight after all symptoms of the disease shall have totally disappeared; and when we have done with mercury, warm bathing, and sudorific decoctions of the sweetening woods are to be continued for some time longer.

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This is a general sketch of the methods of treatment for the confirmed lues; but for a complete history of the disease, and for ample directions in every situation, we refer to Astruc, and his abridger, Dr. Chapman.

Some venereal cases are so very obstinate as not to yield to mercury; and some of the particular symptoms will remain even after repeated courses, particularly the nodes and swellings of the periosteum. These are sometimes cured by a decoction of the roots of mesereon; an ounce being boiled in a gallon of water down to two quarts; a pint of this decoction is to be consumed in the course of a day: if there be any symptoms that resist the mercury, they may perhaps be conquered by a long continuance of the decoction of sarsaparilla, aided by the warmth of a southern climate.

As we have subjoined tables to all the preceding books, excepting the last, which did not require it, (there being no use in subdividing the mental diseases,) we shall here conclude with one, giving a view of the Humoral Diseases.

GENERAL TABLE OF HUMORAL DISEASES.

GENERA.	SPECIES.
I. Corpulency.	
II. Dropsy.	1. Anasarca. 2. Hydrocephalus. 3. Hydrops pectoris. 4. Ascites.
III. Jaundice.	1. Icterus spasmodicus. 2. ——— à pressura. 3. ——— calculosus.

GENERA.

SPECIES.

IV. Emphysema.

1. Original emphysema.
2. Secondary, from wounds of the thorax.

V. Tympany.

VI. Physconia.

VII. Atrophia.

VIII. Osteofarctosis.

IX. Sarcoctosis.

X. Mortification.

1. Sphacelus.

2. Necrosis.

XI. Scurvy.

XII. Scrofula.

XIII. Cancer.

XIV. Lues Venerea.

APPENDIX,

A P P E N D I X,

CONTAINING

An Account of the Effects of *Wort*, or *Infusion of Malt*,
in curing the Scurvy at Sea.

EVERY kind of recent vegetable, that can be taken in the way of diet, will cure the scurvy; *wort*, or *infusion of malt*, is similar in its qualities to the fresh juices of many of these, and therefore ought to produce similar effects: let this infusion be substituted for the fresh juices, and observe whether it cures the scurvy; for if it does, then a remedy for this disease need never be wanting; because malt, when well dried, will remain sound for years, may be carried to sea, and always kept in readiness, in case the scurvy should break out among the crew.

Such was the reasoning on which I founded a proposal that was sent in April 1762 to some medical gentlemen of consequence in London, with a request that they would use their influence with the Lords of the Admiralty for obtaining an order to have the experiment properly tried.

This order was readily granted, and directions were given to make trials of the proposed remedy in the Naval Hospitals at Portsmouth and Plymouth.

But the result was far from promising success; as it appears, by a letter from the late Dr. *Huxham*, that the wort was believed to produce very bad effects at both these places.

This report took its rise from fictitious complaints of the patients, who were disgusted by the restriction which they were laid under, in respect to the use of every kind of fresh vegetable, during the time they were under the course of the wort. It was absolutely necessary, however,

however, thus to debar them; since, otherwise, it would have been impossible to ascertain the genuine effects.

Nevertheless, a second order was issued to have malt carried to sea, and the infusion of it tried at times when no temptations of fresh vegetables should intervene, and when it was expected the patients would cheerfully submit.

But no report, in consequence of this second order, was ever returned to the office; it is therefore taken for granted, that no attention was paid to it; which is not to be wondered at, when we consider the general aversion of mankind to every thing that looks like an experiment, in cases where health is so nearly concerned.

Beside obtaining these public orders, private application was made to some of the navy surgeons; but, in the mean while, the peace took place, and few or no opportunities were left of having the experiment made on board any of the King's ships; men of war, after that period, being seldom under the necessity of keeping so long out at sea, as to render their crews obnoxious to the scurvy.

Some persons in the service of the East India Company were likewise applied to, but they were found to pay as little attention to the proposal as those who belonged to the navy.

Such repeated disappointments made me almost despair of ever getting a fair trial of the wort; and it is probable that I should have ceased to pursue the matter any further, had I not, from reading the Appendix to Sir *John Pringle's* Treatise on Camp Diseases, been led into a course of experiments similar to those which are there related.

The result of these enquiries was a confirmation of the notion, that infusion of malt would cure the scurvy; accordingly, I drew up a detail of my experiments, together with a proposal for trying the wort, and published the whole under the name of *Experimental Essays*.

Though

Though this book appeared in May 1764, yet near three years elapsed before I heard of any person's making the experiment which was required; at length, in March 1767, his Majesty's ship *Jason* returned from the *Falkland Islands*, and I had the satisfaction of learning from my brother, who commanded her, that in the course of the voyage some trials had been made, and the wort found to succeed.

The surgeon of the ship, Mr. *Young*, also sent his journal, containing four cases, which, if not altogether conclusive with respect to the antiscorbutic power of wort, at least must be admitted as ample proofs of its innocency, since they shew that this liquor may be used with great freedom, without the least hazard of its producing any of those bad effects which it had been unjustly charged with by the gentlemen of the Naval Hospitals.

These four cases were published as a postscript to the second edition of the Essays above-mentioned; but in a few months afterwards a second account, and one that was perfectly satisfactory, was received from India from Mr. *Badenach*, surgeon of the *Nottingham East Indiaman*.

This gentleman (who has since taken a degree in physic) wrote from Bombay the 16th of October 1766, and transmitted six cases, which shew that the scurvy may be effectually cured at sea by means of the infusion of malt, and without the aid of fresh vegetable diet.

This being a matter of so much importance to seamen, I judged it proper to communicate these cases without delay, and immediately published all the ten, in a small pamphlet, with the title of, *An Historical Account of a new Method of treating the Scurvy at Sea*.

For the satisfaction of such readers as may not have seen this publication, which is now out of print, the cases, furnished by Dr. *Badenach*, are here given, together with his remarks.

CASE FIRST.

‘ Charles Wareham, seaman, aged about twenty-two, naturally
‘ healthy, came home from India in the Pococke, some time before
‘ he went on board the Nottingham.

‘ About the beginning of March 1766, while the Nottingham lay
‘ at Gravesend, he was seized with a catarrhal fever, from which he
‘ did not entirely recover until we got into the warm weather about
‘ the middle of April, being by that time a month at sea; from
‘ this period, till the middle of May, he continued doing duty as an
‘ ordinary seaman.

‘ About the 18th of May he complained of sore gums, foetid
‘ breath, and had a complexion deeply tinged with yellow. I gave
‘ him a lenient decoction of tamarinds and cream of tartar, together
‘ with a gargle for his mouth; but in spite of these, the scorbutic
‘ complaints increased fast during the remainder of May, and first
‘ week of June, so as to render him unfit for duty and confine him
‘ below.

‘ On the 8th of June, which was the first day he took the wort,
‘ he had the following scorbutic symptoms: his gums were spongy,
‘ swelled, painful, of a livid colour, and bled on the least touch; his
‘ breath was so foetid as to be offensive both to himself and mess-
‘ mates; he had an uneasy pain across the chest, with a difficulty of
‘ breathing, which increased upon the least exercise; his pulse was
‘ harder, and a little quicker than natural; the heat of his body
‘ was rather below the healthy standard; he was costive, and made
‘ high-coloured urine, with a greasy scum on the surface; his legs
‘ and thighs were full of little pimply eruptions and livid spots; his
‘ hams were stiff, and painful; the knees a good deal swelled and
‘ painful, and his legs always swelled towards night, the skin being
‘ dry: the soreness of his mouth prevented him from eating solid
‘ food,

‘ food, so that he was often obliged to fast, contrary to inclination,
‘ which rendered him very weak and low.

‘ This day, I gave him one pint of the fresh made wort boiled up
‘ with some pounded sea-biscuit into a panado, and sweetened this
‘ mess with sugar, which was very agreeable, and fat easy; he
‘ drank another pint acidulated with elixir of vitriol, in the course
‘ of the day; thus he was provided with both meat and drink, and
‘ used nothing else. The grains from whence the wort had been
‘ strained off were applied as a poultice to the stiffened hams, with
‘ the addition of a little sweet oil.

‘ 9th June, Used the same diet; no alteration.

‘ 10th, The catching of breath (as he termed it) abated; sweated a
‘ little in the night. Used the wort and panado as before, to which
‘ I added a laxative bolus.

‘ 11th, The breathing still better; the hams not so painful; had
‘ three loose stools. The quantity of wort increased to three pints
‘ in the day.

‘ 12th, Looseness continues; the face more lively coloured; pain
‘ of the breast vanished; the skin more moist, and the pains of the
‘ limbs much better. Persists in the same course as before.

‘ 13th, In the night he was a good deal griped, which was suc-
‘ ceeded by an increase of the looseness; he continued to take the
‘ panado, but was ordered to abstain from drinking the wort, for fear
‘ of increasing the purging too much. He got a decoction of the
‘ bark, with honey of roses and elixir of vitriol, to wash his mouth
‘ with, by way of gargle.

‘ 14th, The looseness continued, but without griping, and all his
‘ complaints were better: used three pints of the wort.

‘ 15th, All the pains, both of breast and limbs, removed; erup-
‘ tions mostly disappeared; mouth clean, and gums not so spongy;
‘ he walked about cheerfully, and was moderately loose.

‘ 16th, So well, that he thought himself able to go upon deck to
 ‘ do duty; but the weather being rainy, he got wet, and, beside,
 ‘ found that strong exercise hurt his breast. Used the wort as
 ‘ before.

‘ 17th, Did his duty as a seaman; used the same as before.

‘ 18th, As on the preceding day. The small quantity of malt
 ‘ that I had provided being now nearly exhausted, I was obliged to
 ‘ strike him off from the further use of the wort: the consequence
 ‘ was, that in a few days the symptoms returned, for which I had
 ‘ recourse to the remedies generally used at sea, viz. laxative boluses
 ‘ and decoctions, with the *pil. scillit.* I likewise tried sugar dissolved
 ‘ in four times its quantity of water, and used much in the same
 ‘ manner, and in nearly the same quantity as the wort; but all these
 ‘ had little effect, the patient being confined below for near four
 ‘ weeks after the wort was done, and in nearly the same condition
 ‘ as before he first began it.

‘ On the 16th of July we came to an anchor at the island of
 ‘ Joanna*, where this patient, with about forty others, went on
 ‘ shore lived in a tent erected for the purpose, and by the use of
 ‘ fresh fruits and vegetable soups recovered in five days time.’

CASE SECOND.

‘ John Hyett, one of the Honourable Company’s recruits, twenty-
 ‘ one years of age, bred to the sea. About the 14th of June his
 ‘ gums became spongy, and he complained of a fixed pain in the
 ‘ small of his back, with wandering pains all over the body. These
 ‘ symptoms increased till the 18th June, when his gums were livid
 ‘ and swelled; the breath foetid; the thighs, legs, and hams in

* One of the Comoro islands, lying between the N. W. part of Madagascar, and the continent of Africa.

‘ great pain; the shoulders and limbs full of purple eruptions and
‘ large spots; he was costive, and made high-coloured urine.

‘ This day he began and took three pints of the wort, as in the
‘ foregoing case.

‘ 19th, I found the wort had given him two loose stools without
‘ griping; repeated the same.

‘ 20th, Every way much better; increased the quantity of wort
‘ to two quarts; one half for panado, and the other for drink.

‘ 21st, All the pains gone; the belly continues open, the mouth
‘ is cleaner, and the gums not so sore; his colour is more lively,
‘ and he has gained strength: repeated the same.

‘ 22d, Almost every complaint vanished; his mouth and gums
‘ so well, that he could eat dry biscuit, and so much recovered in
‘ every respect that he went upon deck.

‘ 23d, Continued stout. From this day till the 26th he remained
‘ upon deck, strong and cheerful, but having no more wort, he
‘ relapsed; when I had recourse to the usual remedies, but without
‘ effect; for the symptoms increased until we arrived at Joanna,
‘ where he quite recovered in a few days.’

C A S E T H I R D.

‘ Thomas Redhead, a recruit, thirty-two years of age, his legs
‘ and ankles swelled, and pitted when pressed by the fingers; the
‘ skin of them dry, rough, and covered over with purple spots,
‘ which also extended up the thighs: his belly was greatly bound.

‘ On the 17th June, he was purged with a decoction of tama-
‘ rinds and cream of tartar.

‘ 18th, I gave him three pints of wort; one-half in panado, the
‘ other in drink.

19th,

‘ 19th, Continues open in his belly; the swelling of the legs and ankles considerably abated: repeated the wort.

‘ 20th, Repeated as before.

‘ 21st, The swelling gone, and the spots disappeared. From this time he went upon deck, and worked when required, all the way to Joanna.’

CASE FOURTH.

‘ James Vaughan, a recruit, nineteen years of age, tall, and naturally healthy. About the 10th of June he began to lose his strength, complained of sore gums, and foetid breath, grew of a fallow complexion, and struck out on the legs and arms with purple eruptions.

‘ These complaints daily increased, and were joined to others; so that on the 18th, antecedent to the administration of the wort, he had precisely the following symptoms:

‘ His gums were greatly swelled, so as almost to cover the teeth, were of a livid colour, loose, spongy, and extremely painful; his breath very offensive; the breathing difficult, with a pain of the chest which increased upon the least motion; his face bloated, swelled, and, when nearly inspected, the cheeks appeared of a purplish hue; he had pains in his loins, and in all his limbs, with innumerable purple coloured eruptions and large blotches upon the extremities; his pulse was hard, small, and quick; he made high-coloured urine, and was extremely costive.

‘ On this day he began the wort, and took three pints in the same manner as before mentioned.

‘ 19th, Much the same; wort sat easy: repeated it.

‘ 20th, Had one loose stool; but no sensible alteration, excepting that the pain which used to be across the chest was now shifted to

‘ the fide: increafed the wort to two quarts, and ordered him to
‘ wash his legs in vinegar.

‘ 21ft, Has had two loose stools, and is much better in every
‘ refpect; the wandering pains perfectly eafy; the complaints
‘ affecting the breath abated; the fwelling and livid hue of the
‘ countenance difperfed. Continued the wort in the fame quantity
‘ as the day before.

‘ 22d, The mouth cleaner, and gums growing firm; all the
‘ pains vanifhed, except an uneafinefs in the left hip. Repeated
‘ the wort as before.

‘ 23d, Sweated a good deal in the night; gave him a laxative bolus,
‘ and an aftringent gargle for his mouth.

‘ 24th, Had a good many loose stools: the purple eruptions and
‘ blotches difperfed and gone, the complexion more lively coloured,
‘ and no pain or uneafinefs of any part. Repeated the wort, and
‘ gave him the gargle made of decoction of bark and elixir of
‘ vitriol.

‘ 25th, So well and ftrong, that he judged himfelf able to go upon
‘ deck, and put his hand to any thing he might be defired: conti-
‘ nued the wort. From this time till the end of June he remained
‘ healthy, but he grew bad again before we reached the ifland of
‘ Joanna, where he recovered along with the reft.’

C A S E F I F T H.

‘ Francis Turner, a recruit, had been long at fea, but never fcor-
‘ butic before. About the 25th of May he fhewed me his left leg;
‘ on the calf of which were many fcars of old fores, which were
‘ now grown of a livid colour, and become painful, tenfe, and rigid;
‘ his gums being at the fame time rotten and fpungy, left no room
‘ to doubt but that he was falling into the fcurvy. I made him
‘ drink

‘ drink sea-water, gave him laxative decoctions, and desired him to
 ‘ use a gargarism, but all without any good effect; for the com-
 ‘ plaints daily increased, until at length the old cicatrices actually
 ‘ broke out, the gums grew putrid, and bled on the least touch;
 ‘ the calf of the left leg became quite rigid, and both hams stiff and
 ‘ painful; his pulse was small and hardish, and he was so weak as
 ‘ scarcely to be able to walk a few yards.

‘ The malt being nearly all used, I first gave him a decoction of
 ‘ sarsaparilla for five days, which had a visible effect upon his left
 ‘ leg, for it became softer and better coloured.

‘ From the 19th of June to the 24th, he consumed three pints of
 ‘ wort daily, which kept him open in his bowels, and in this short
 ‘ time removed the stiffness and lividity of the leg and hams; the
 ‘ ulcers healed up, the gums became clean and sound, and he grew
 ‘ in every other respect so well that he went upon deck, and remained
 ‘ healthy all the remainder of the passage.’

CASE SIXTH.

‘ John Harlington, a recruit, thirty-seven years of age, of the
 ‘ middle stature, and formerly of a healthy constitution. About the
 ‘ 25th of May his gums were spongy, pale-coloured, and sore, his
 ‘ breath offensive, both hams stiff, and he complained of wandering
 ‘ pains through all his limbs.

‘ These complaints increased till the 8th of June, when he had
 ‘ moreover a fixed pain in the loins, a swelling of both knees, with
 ‘ several bumps or tumours, some of which were of a bluish colour,
 ‘ on the inside of the tibia; he was extremely costive, and so ema-
 ‘ ciated that he could hardly crawl out of his hammock.

‘ This day I gave him a quart of the wort in the same manner as
 ‘ to the others.

‘ 9th,

- ‘ 9th, Repeated the same. No alteration.
- ‘ 10th, Continued the like quantity; no change.
- ‘ 11th, The wort had opened him a little; all the complaints better: increased it to three pints.
- ‘ 12th, Colour more lively, and all the pains easier. Continued the wort, and gave him an antiseptic gargle for the mouth, together with camphorated spirits to rub on the swellings of the tibia.
- ‘ 13th, In the night he became loose, which continued; all the scorbutic symptoms better: repeated the medicines as yesterday.
- ‘ 14th, Better: repeated the same.
- ‘ 15th, Still continues loose, and pretty easy: goes on as usual.
- ‘ 16th, Much the same as before: used the same things.
- ‘ 17th, Looseness continues; all complaints easy, excepting the pain in the back: repeated the wort.
- ‘ 18th, Much at one: repeated the same.
- ‘ 19th, Had sweated a little; repeated the wort to two quarts, which was the last he got of it.
- ‘ As he had nothing all this while to subsist on but the wort, he did not recover strength sufficiently to enable him to keep upon deck, so that after a few days, the malt being all expended, he was mostly confined to his hammock until we arrived at that island of Mohila: and although at that island, and for five days more that we were at sea between it and Joanna, he had plenty of limes, oranges, and other fruits, yet, for want of fresh meat, he and the rest of the scorbutics were but very little better when they were landed at this last-mentioned island, the 16th of July; where, as has been already said, they recovered in five days.’

REMARKS.

‘ THESE six cases were all that the small quantity of malt I had
‘ on board allowed me to give the wort to; and of how great service
‘ the use of it was to those who took it, I leave to the judgment of
‘ any person who has seen the scurvy at sea, and knows that all other
‘ means hitherto tried are of little or no effect.

‘ Whatever alteration was made in the habit of these scorbutics,
‘ was entirely owing to the wort and the panado made of it; for
‘ we have not such a variety of diet and provisions as they have in
‘ the royal navy, (where they are provided with portable soup, sago,
‘ rice, barley, &c.) and in the present trial I believe the patients
‘ tasted nothing beside during the course; for, on account of the sore-
‘ ness of the mouth, they could not eat any solid food.

‘ It appears probable from this small trial, that the use of wort
‘ will in three or four days abate the scorbutic pains, excite a loose-
‘ ness, and disperse the eruptions: that in ten days or so, the wort,
‘ in most cases, if taken in time, and to a sufficient quantity, will
‘ recover the scorbutic patient so far as to be able to go upon deck fit
‘ for moderate duty; that, if continued in smaller quantity, after
‘ recovery from the disease, it will prevent their relapsing for months,
‘ without any other remedy, which nothing that has yet been car-
‘ ried to sea has ever done: that if aided by portable soup, rice,
‘ sago, fresh meat broths, and the like, there will be little danger
‘ of this disease even in the longest cruises.

‘ The malt that I used was got from a maltster at Gravesend; it
‘ was kept in a bag in the gun-room, and remained fresh until I
‘ wanted to use it, which was about three months.

‘ It was managed according to the directions in the proposal;
‘ being ground daily in a hand-mill, according as it was required.

Three

‘ Three measures of boiling water were poured on one of the
‘ ground malt, which was put into a large copper decoction-pot;
‘ and there left to stand for four hours, when it was strained off
‘ through a cloth, and each of the patients served with their allow-
‘ ance of it. The wort was of a pale colour, sweetish and very
‘ agreeable: a glass full of it, in a heat of seventy-four degrees of
‘ Fahrenheit’s thermometer, kept for twenty-four hours perfectly
‘ sweet and fresh, but in thirty-six hours became vapid, sourish, and
‘ threw up a scum to the surface. When the malt was boiled, it
‘ made a wort not so light and good, being high-coloured, clammy,
‘ and did not run into fermentation so soon as that made by simple
‘ infusion, by six or eight hours.’

The wort has also been tried on board the *Queen East Indiaman*, in her passage home in 1769, but there was only one scorbutic patient, and the symptoms did not become distressing till about three weeks before the ship entered the British Channel; yet, by the use of the wort-regimen, this man was so well recovered as to do duty, with ease to himself, by the time that the gentleman, who writes the account, quitted the ship off Dartmouth.

The same gentleman adds, that the surgeon of the *Queen* informed him, that in their outward-bound passage, they had many scorbutics to whom he gave wort, and that in every case where the disease was moderate, the cure was complete; but where the symptoms attained to a certain pitch, it only stopt the progress.

The cases which have been already mentioned may be deemed sufficient to establish the credit of this new antiscorbutic, but none of them come up to the following, communicated by Dr. *Fothergill*, in a letter to Dr. *Rutty*, dated 18th of August 1770.

“ I was sent for to a publican last winter, whom I found in the
“ following circumstances: The room was as offensive as a salivat-
“ ing ward; and as I approached the bed, I found it proceeded from

“ the patient’s breath, which was as foetid as a person’s in the highest
 “ salivation. His habit was much bloated, with a leucophlegmatic
 “ aspect, his gums putrid and spongy, a copious ptyalism, dejection
 “ of strength, total loss of appetite, oppressed breathing, and
 “ a feeble languid pulse, scarcely to be felt, with a cold clam-
 “ minefs over his hands and face, a diarrhœa continually; made
 “ little urine, was not very thirsty, and took very little sustenance.

“ He was about thirty, had drunk freely a few years before, but
 “ for many months lived soberly; had not taken nor made use of
 “ any mercurials either internally or externally. His house was
 “ small; he had much business among the lowest dirtiest people,
 “ who were successively drinking at his house, and he slept in a small
 “ dirty room. I took the disease to be a genuine scurvy, and
 “ thought him so near his end, that it was unnecessary to see him
 “ again. The apothecary lived near, and I stepped to his house,
 “ desiring him to make a strong infusion of malt, and to give the
 “ sick person as much as he could get down, at least two quarts in
 “ the twenty-four hours. It was done. Occasionally seeing the
 “ apothecary a few weeks afterwards, I enquired concerning the
 “ person, and how long he lived after I saw him: he told me, that
 “ he began to recover in a very few days, and was then as well as
 “ usual, and that by the use of this infusion *solely* *.”

It must not, however, be concealed, that the wort has not been found equally efficacious in the trials which were made in voyages across the Pacific Ocean.

When his Majesty’s ships the *Dolphin* and *Swallow* made their last circuit of the globe, the surgeons were ordered to make trials of the wort, and report the success.

* Some time after the writing of this letter, Dr. Fothergill found out that the apothecary, of his own accord, had always given, along with the wort, some drops of lixivium tartari; but with what view is not easy to determine: it certainly could not increase the antiseptic power of the wort.

It appears from the journal of Mr. *Hutchinson*, surgeon of the *Dolphin*, that about six weeks after they had entered the South Sea, the scurvy began to make its appearance, and threatened to become very common. As they had already expended best part of their water, and did not know how long it might be before they should get a new supply, he could only afford to put a few patients on the course of the wort; accordingly three were selected to make the experiment.

They all had the scorbutic symptoms in much the same degrees as the patients described by Dr. *Badenach*, and began the wort-regimen on the 21st day of May. They used from three pints to two quarts daily, and either boiled their bread and fruit in it, or soaked their biscuit, as best suited their appetites: this diet was extremely well relished, and sat light on the stomach; it produced the usual effect of gently purging, and the symptoms after the first week began sensibly to abate; but on the 7th of June the ship had the good fortune to fall in with some islands where they got such abundance of coconuts, and other grateful fresh vegetables, that the patients immediately quitted their wort; and, during the rest of the voyage, had never afterwards any occasion to resume it, except in the passage from Java to the Cape of Good Hope, when they had a great deal of sickness; and those who were recovered from fevers and fluxes drank very plentifully of the infusion of malt; and, notwithstanding, the people were much reduced by these diseases, and consequently rendered extremely liable to be attacked by the scurvy, yet their gums were firm, their skins clear, and had not the least appearance of a scorbutic habit among them.

The *Swallow* was not so fortunate, for she separated from the *Dolphin* soon after they got through the Straits of Magellan, and had a very distressing passage to India.

Mr. *Watson*, the surgeon, in his journal, gives a very particular detail of five cases, though there were eighteen people in all seized with the scurvy; but these appear to have been the most violently affected.

Two of the five died, notwithstanding they were fully supplied, not only with wort, but also with variety of fresh vegetables, which were procured from time to time at different islands; and so inveterate were the symptoms in the three who survived, that they did not completely recover their strength in less than from six to eight months, constantly living on shore, (at some place in India, which is not specified,) and indulging in all the luxury of delicious fruits, which abound in the countries between the tropics; hence it appears, that there is somewhat particularly obstinate in the scurvy, which breaks out during voyages in the South Sea.

Mr. *Watson*, however, believes, that the wort, though it did not actually cure, considerably retarded the progress of the scurvy; but he mentions, that his malt was somewhat damaged by insects, and he doubts whether it was originally very good, as the proportion of three measures of water to one of ground malt did not yield an infusion sufficiently saccharine, which obliged him to increase the quantity to the rate of five measures of water to three of malt.

The malt, before it be received on board, should be highly dried, and ought to be carefully packed in close casks of a small size, which are to be stowed in the bread-room.

The method of preparing, as well as administering the infusion, may be collected from the foregoing cases, and therefore need not be repeated; but, that the reader may be enabled to form a judgment of the virtues of wort, as compared with the other things that have usually been deemed and recommended as antiscorbutics, I shall here add an extract from Dr. Lind's *Treatise on the Scurvy*, page 191.
where

where he gives an account of the result of some experiments which he made.

‘ On the 20th of May 1747, I took twelve patients in the scurvy
‘ on board the Salisbury at sea. Their cases were as similar as I
‘ could have them. They all in general had putrid gums, the spots
‘ and lassitude, with weakness of their knees. They lay together in
‘ one place, being a proper apartment for the sick in the fore-hold;
‘ had one diet common to all, viz. water-gruel sweetened with sugar
‘ in the morning; fresh mutton-broth often times for dinner; at
‘ other times puddings, boiled biscuit with sugar, &c. and for sup-
‘ per, barley and raisins, rice and currants, sago and wine, or the
‘ like. Two of these were ordered each a quart of cyder a-day.
‘ Two others took twenty-five drops of elixir vitriol three times a-
‘ day, upon an empty stomach; using a gargle strongly acidulated
‘ with it for their mouths. Two others took two spoonfuls of vine-
‘ gar three times a-day, upon an empty stomach; having their
‘ gruels and their other food well acidulated with it, as also the
‘ gargle for their mouth. Two of the worst patients, with the ten-
‘ dons in the ham rigid, (a symptom none of the rest had,) were put
‘ under a course of sea-water. Of this they drank half a pint every
‘ day, and sometimes more or less as it operated, by way of gentle
‘ physic. Two others had each two oranges and one lemon given
‘ them every day. These they ate with greediness, at different
‘ times, upon an empty stomach. They continued but six days
‘ under this course, having consumed the quantity that could be
‘ spared. The two remaining patients took the bigness of a nutmeg
‘ three times a-day, of an electuary recommended by an hospital-
‘ surgeon, made of garlic, mustard-seed, Rad. Raphan. balsam of
‘ Peru, and gum myrrh; using for common drink barley-water well
‘ acidulated with tamarinds; by a decoction of which, with the addi-
‘ tion of cremor tartar, they were gently purged three or four times
‘ during the course.

‘ The consequence was, that the first sudden and visible good
 ‘ effects were perceived from the use of the oranges and lemons;
 ‘ one of those who had taken them being at the end of six days fit for
 ‘ duty. The spots were not indeed at that time quite off his body,
 ‘ nor his gums sound; but without any other medicine than a gar-
 ‘ garism of elixir vitriol, he became quite healthy before we came
 ‘ into Plymouth, which was on the 16th of June. The other was
 ‘ the best recovered of any in his condition; and being now deemed
 ‘ pretty well, was appointed nurse to the rest of the sick.

‘ Next to the oranges, I thought that the cyder * had the best
 ‘ effects. It was indeed not very sound, being inclinable to be aigre
 ‘ or

* Extract of a letter from Mr. Ives to Dr. Lind.

‘ I judge it proper to communicate to you, what good effects I have observed in
 ‘ the scurvy, from the use of cyder and sea-water, during the last cruise I made in the
 ‘ western squadron, with my honoured benefactor Admiral Martin. But as I do not
 ‘ pretend to have taken notice of any thing more than merely a palliative benefit
 ‘ from them, I think, without mentioning particular cases, it will be sufficient for
 ‘ me to inform you, that, in our preceding cruise with the western squadron, his
 ‘ Majesty’s ship Yarmouth, of seventy guns, and five hundred men, was not only
 ‘ troubled with the scurvy in common with other ships, but, in spite of all my endea-
 ‘ vours, lost in it a proportioned number of men. Upon our return from that cruise,
 ‘ I took an opportunity to represent to the Admiral, that as vegetable juices of all
 ‘ sorts were from experience found to be the only true antiscorbutics, and I had my-
 ‘ self formerly experienced the good effects of apples, it was reasonable to presume
 ‘ that cyder must certainly be of service. This suggestion agreed with some accounts
 ‘ the Admiral had received from others; and he, with great readiness, bought, and
 ‘ put under my care, several hogheads of the best South-Ham cyder. During the
 ‘ next cruise, each scorbutic patient had daily a quart or three pints of cyder; and as
 ‘ many of them as I could prevail on, took twice a-week three quarters of a pint
 ‘ of sea-water in a morning. In all other respects I treated them as I used to do
 ‘ people in the scurvy; which you well know, from the conversation which has often
 ‘ passed betwixt us on this subject, was with squill vomits, pills composed of soap, squills,
 ‘ garlic, &c. elixir vitriol, and other medicines suited to the different stages and symp-
 ‘ toms of the malady. In one word, we had this cruise as many scorbutic patients as
 ‘ in any other ship, in proportion to our compliment of men. But although all the rest
 ‘ buried a great many, some to the number of twenty, others thirty, forty, fifty, and
 ‘ upwards; yet the Yarmouth did not bury more than two or three, and these at the
 ‘ latter end of the cruise, all our cyder having been expended for a week or ten days
 ‘ before. Upon our arrival at port, we sent to the hospital a great many in very
 ‘ dreadful circumstances.’

‘ or pricked. However, those who had taken it were in a fairer way
‘ of recovery than the others at the end of the fortnight, which was
‘ the length of time all these different courses were continued, except
‘ the oranges. The putrefaction of their gums, but especially their
‘ lassitude and weakness, were somewhat abated, and their appetite
‘ increased by it.

‘ As to the elixir of vitriol, I observed that the mouths of those
‘ who had used it by way of gargarism, were in a much cleaner and
‘ better condition than many of the rest, especially those who used
‘ the vinegar; but perceived otherwise no good effects from its in-
‘ ternal use upon the other symptoms. I indeed never had a great
‘ opinion of the efficacy of this medicine in the scurvy, since our
‘ longest cruise in the Salisbury, from the 10th of August to the 28th
‘ October 1746, when we had but one scurvy in the ship. The
‘ patient was a marine (one Walshe); who, after recovering from a
‘ quotidian ague in the latter end of September, had taken the elixir
‘ vitriol by way of restorative for three weeks; and yet at length
‘ contracted the disease while under a course of the medicine recom-
‘ mended for its prevention.

‘ There was no remarkable alteration upon those who took the
‘ electuary and tamarind decoction, the sea-water, or vinegar, upon
‘ comparing their condition, at the end of the fortnight, with others
‘ who had taken nothing but a little lenitive electuary and cremor
‘ tartar, at times, in order to keep their belly open; or a general
‘ pectoral in the evening, for relief of their breast. Only one of
‘ them, while taking the vinegar, fell into a gentle flux at the end
‘ of ten days. This I attributed to the genius and course of the dis-
‘ ease, rather than to the use of the medicine. As I shall have occa-
‘ sion elsewhere to take notice of the effects of other medicines in
‘ this disease, I shall here only observe, that the result of all my
‘ experiments was, that oranges and lemons were the most effectual

‘ remedies for this distemper at sea. I am apt to think oranges preferable to lemons, though perhaps both given together will be found most serviceable.’

On comparing Dr. Lind’s experiments with those made by Dr. Badenach, and the other gentlemen, it plainly appears, that infusion of malt is to the full as powerful with respect to antiscorbutic virtue as the fresh juices of the acid fruits; but as the material for making this liquor may be so cheaply purchased, and is capable of being much longer preserved than oranges, lemons, or any other kind of fruit, there can be no hesitation in giving it the preference for general use; and it is hoped that, for the future, neither East India ships, nor men of war destined for long cruises or voyages, will proceed to sea without a proportionate stock of sound well dried *malt*.

But it appears from the fourth volume of the London Medical Observations, as well as from the case given by Dr. Fothergill, and a few others which have fallen under my own observation, that wort may be used as an alterative, with very great advantage, on shore, in cases of inveterate ulcers, and in such constitutions as are disordered by cutaneous eruptions, which resist the action of mercury: when we find this medicine of no service, or that it rather exasperates the complaints, a course of wort will bid fair to correct the sharpness of the juices.

Its being so extremely grateful, and, in general, agreeing so well with the stomach, will, probably, on further experience, give wort a preference to the common antiscorbutic juices, which from their offensive taste can seldom be taken in such quantities, or continued for such a length of time, as is required to work a permanent change in the state of the animal fluids; so that we may expect to see infusion of malt become an article in our Dispensatories.

When the foregoing sheets were almost ready for publication, I received the Journal of Mr. Perry, surgeon of his Majesty’s bark,
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the Endeavour, as also an extract of Captain Cooke's letter to the Secretary of the Admiralty, concerning the effects which were produced by wort during their voyage round the world.

In fitting out the Endeavour, unusual provision was made for the preservation of the people's health; for, besides a good stock of malt, they carried out plenty of four krout, mustard, vinegar, wheat, inspissated orange and lemon-juice, saloup, portable soup, sugar, and molasses: some of these things were in daily use, and the others were dealt out with a liberal hand, occasionally; hence few scorbutic cases occurred, and those but in slight degrees in the course of three years absence.

As they crossed the equator, on their passage outwards, a bilious disorder affected the crew in general, though very slight in its degree; however, to prevent scorbutic complaints in people already weakened, the wort was first prepared in October 28, 1768, and given at the rate of a quart in the day, to such valetudinarians as were judged to require it: in consequence of this, and other proper precautions, they arrived at *Rio Janeiro* without a scorbutic symptom among them.

In their passage from the port above-mentioned to *Le Maire's Straits*, the wort was given to three invalids, and appears to have kept them up until they touched at *Terra del Fuego*: there they gathered wild celery in such abundance, that the people in general breakfasted on this herb, boiled up with ground wheat and portable soup. In January 1769, they passed *Cape Horn*; the whole ship's company being as free from the scurvy as when they sailed from Plymouth; but in the beginning of March the disease made its appearance in a slight degree. Mr. Perry relates four cases, one of them his own, wherein the wort was used as a remedy, and found to have all the good effect that could be wished; in three or four days the symptoms sensibly abated, and in ten or twelve, no complaints

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were left: it was also given, at the same time, by way of preservative, to such of the people as were infirm, and supposed to have a tendency to become scorbutic, and continued until April the 11th, when they arrived at Otaheite without the least appearance of scurvy. From this time only five cases occurred: two on the coast of *New Zealand*, and three on that of *New Holland*; afterwards, not a man suffered from that disease.

In February 1770, Captain Cooke finding the malt (which by this time must have been made upwards of two years) so indifferent, that the surgeon could make little or no use of it; and having a good deal still remaining, in order that they might reap some advantage from it, directed as strong an infusion to be made as possible, and in it boiled ground wheat; this mess, which was extremely pleasant, and much relished by the people, was served out to them for breakfast as long as the malt lasted; and Captain Cooke says, he had great reason to think that the men received much benefit from the use of it.

Mr. Perry concludes his journal by saying, That it is impossible for him to decide which of the various things they were provided with, was most conducive to their preservation from scurvy, they used so many preventives; but from what he has seen the wort perform, and from its mode of operation, he does not hesitate a moment in declaring, that it is the best medicine he knows, the inspissated orange and lemon-juices not excepted.

FINIS.

Macbride, David,

A Methodical Introduction to the theory and practice of Physic

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4 Phys.g. 86

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